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FOX
TOMSON

TRAVELS
IN
HUNGARY, &c.



A Hungarian Nobleman & Peasant in their national Dress.

London. Published by G. G. & J. Robinson, Paternoster Row. July 1st 1796.

TRAVELS
IN
HUNGARY,
WITH
A SHORT ACCOUNT OF
VIENNA
IN THE YEAR 1793.

By ROBERT TOWNSON, L. L. D.
F. R. S. EDINB. ETC. ETC. ETC.

ILLUSTRATED WITH A MAP AND SIXTEEN OTHER COPPER-PLATES.



LONDON:

PRINTED FOR G. G. AND J. ROBINSON, PATERNOSTER-ROW.

1797.

WOMAN
WOMAN
WOMAN

DEDICATION.

TO

THE RIGHT HONOURABLE

HENRY DUNDAS,

ONE OF HIS MAJESTY'S PRINCIPAL SECRETARIES OF STATE,
ETC. ETC. ETC.

SIR,

TO Britain, as the mistress of India, the rest of Europe look up for knowledge of that fine country; and our fame, both as a great nation and as a scientific people, requires that this expectation should not be disappointed. When, through the valour of our arms and the wisdom of our public councils, science is advanced and useful knowledge increased, the disasters of conquests are forgotten by the philanthropist and peaceful philosopher, and the foreigner then participating in our good fortune breathes forth wishes for Britain's prosperity.

Such

Such I flattered myself were the sentiments of the British East India Company; and I expected it would have made a point of honour to encourage useful discoveries in its own vast territories so exuberant in nature's choicest productions; and would have been eager, in the present tranquillity of peace, to patronise an undertaking which should have this in view. Under these impressions I planned a Tour of Discovery through this country, principally with the design of exploring its mineralogy and physical geography, which we are hitherto totally ignorant of, and I solicited your protection and the Company's patronage in its favour. Unfortunately, I think, for Science, it met with the disapprobation of the Court of Directors, and consequently was laid aside. But from you, Sir, as the head of India affairs, as might be expected from the minister of an enlightened country, and as the representative of a city which may with peculiar propriety be considered as the seat of Science, it met with approbation and support: and to shew how highly I value this patronage, I presume to inscribe to you the following
Work,

Work, a small tribute of gratitude indeed, but the greatest an author can pay.

I cannot avoid still indulging the hope, from the obvious advantages which may result from such an enterprise, from the protection it met with from you, from the entire approbation it received of the enlightened Chairman Mr. David Scott, and from the favourable opinion entertained of it by those conversant in India affairs, and men of science in general, that its execution may yet form one of the distinctions of your administration. Then, when Science has made known the natural riches of this extensive country, Britain will have an additional reason to glory in being its possessor.

I have the honour to be, with sentiments both of public and private gratitude,

SIR,

Your most obedient humble servant,

ROBERT TOWNSON.

P R E F A C E.

THOUGH so many Tours have appeared of late, Hungary has never been the subject of one of them ; it is nevertheless a country, though so circumstanced as to be of little political importance to Britain, worthy of our attention : its constitution, its people, and their manners, and its natural productions, are all remarkable.

I know that the present work, the corrected notes of a five months' Tour, does not supply this deficiency ; on the contrary, I am conscious that on some very important matters I have only slightly touched ; yet even this small pittance of information on a country so little known, and yet in itself so highly interesting, will, I hope, be thought not too insignificant to be laid before the public. Had I drawn up this Tour in Hungary, where I could easily have obtained information when my own notes were too short or obscure, a far more interesting work would probably now have appeared ; but in the turbulent times that have succeeded,

a

ceeded, it has been very difficult to obtain any information through correspondents. An absence likewise of eight years from Britain will, I hope, be received as an excuse for some inaccuracies of language.

I have purposely said but little on the mines of this kingdom: a fuller account would have led me into too much detail not to have been tedious to every one but the professed miner.

I think I need make no apology for annexing the map; it must be pleasing to every reader to see at one view all the principal natural and artificial productions of the country, and the different nations which inhabit it, expressed on a map, besides what is generally marked upon them. I am not the author of it, and the only merit I can claim is that of having adapted it to the English reader, by translating what admitted of translation, and of making some trifling alterations in it. I have, for instance, as far as my information extended, distinguished the hot mineral waters from the cold; I have altered the denomination of Diamond to Rock Crystal, *Pelecanus baffanus* to *Pelecanus Onocrotalus*, and *Mus noricus* to *Marmota alpina*, as these appellations were certainly erroneous. I have added three or four new signs, and extended the plan of the author by signifying more of the productions, as horned cattle, horses, sheep, hogs, honey, filk, corn, &c. &c. by figures of these objects, and not by letters;

ters; and other signs I have improved. I have marked the seat of the CUMANIANS, JAZYGERS, and HAYDUKES, and added the post-roads, and my own route. In the explanation of the signs, which consisted of three languages, the Latin, German, and Hungarian, I have omitted the German and added the English. The *petrography* is wholly by me.

It will probably be thought that some of the productions should have been omitted as too trifling, and that others might have been added. Mr. Korabinsky, the author of it, who does not pretend to be a man of science or a naturalist, has only given it that degree of perfection his humble situation permitted; and I would rather be censured for altering too little than too much.

Though so many things are noted on this map, I hope it will not be found confused; for though the petrography, as well as the nations, are marked by colours, yet the subjects of each may be easily distinguished, as the nations are denoted by a mere outline, whilst the petrography is washed. And if through carelessness in colouring the petrography, a doubt should arise what is designed by any colour, the figures 1 to 13, which I have added to the colours, will, through the corresponding figures in the table of colours, clear up the doubt. Had I had opportunities of observing the nature of the rocks through a more

extensive tract of country, it would have been worth while to have made a separate map on this subject; but circumscribed as my observations have been, I think it is not. When mineralogy and physical geography shall be more cultivated, which one day they certainly will, these maps will become common, and their union will give an easy and visible representation of the coating of our globe, that is, of its rocks and strata and their relative situations. This is not merely a matter of curious speculation, but, as different minerals are peculiar to certain strata, of real utility, conveying important knowledge in the statistics of a country.

The post-roads I have taken from another map on a smaller scale; I could, therefore, often, only draw a straight road from one principal town to another, without being able to ascertain whether the different smaller towns or villages through which I have conducted the roads, are really thus situated upon them. As public roads are indicative of the state of improvement of a country, they ought not to be omitted in maps of this nature.

In regard to the Appendix, I beg it may be understood, that the observations there are only such as occurred on examining and determining the insects and plants I collected in this Tour. It may serve as a fragment towards a *Fauna* and *Flora* of this
king-

kingdom; and may contain some additions to the *Systema Naturæ*, and afford some hints to systematic writers on entomology and botany.

When I began to describe the fossils, I intended to have prefixed a short mineralogical terminology to this work; but being now engaged in writing THE ELEMENTS OF MINERALOGY, which will soon appear, I must omit this. The descriptions are but few, and I have made use of language which I think will be intelligible to every scientific reader; only in regard to size I have used two or three arbitrary denominations: these I have applied as they are defined by Mr. Werner in the article of Crystals, as *Fragmenta mediocria*, that is, from two inches to half an inch; *minora*, from half an inch to an eighth; *parva*, from an eighth to the smallest size visible; *minima*, not distinguishable without a magnifying glass.

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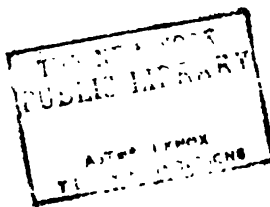
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SKETCH OF A TOUR

THROUGH

A PART OF HUNGARY.

CHAP. I.

VIENNA—ITS LEARNED INSTITUTIONS—PUBLIC LIBRARIES
—CABINET OF MEDALS—IMPERIAL AND OTHER VALUABLE
COLLECTIONS OF MINERALS AND NATURAL CURIOSITIES
—THE MARKETS—PUBLIC AMUSEMENTS—IMPERIAL BOTANICAL GARDEN, AND MENAGERIE.

WINTER had set in when I reached Vienna; and as I was there assured the difficulties the traveller had to encounter in Hungary, the next country I meant to visit, were, for the want of civilization, very great; I thought it prudent to wait here, till the return of fine weather should render the wants of the traveller fewer.

B

Though

Though Vienna is not famed in the other parts of the Empire for its learned institutions, or for being the seat of men of letters ; yet a city like this, the capital of a government like that of the Austrian monarchy, cannot be without these institutions, its learned men and *amateurs*.

I must pass over its university, and college of surgery and medicine ; its academies for the nobility, the clergy, and for the fine arts ; the school for the deaf and dumb, and even the *Normal School*, being too little acquainted with some of them, and finding nothing remarkable in the others. Only of the first I would observe, that it is on the old plan, where the students are not left to follow the course of study they or their friends may think proper, but one fixed by the university. Within these few years, most of the lectures are delivered in the German language, but those on pathology, therapeia, and materia medica are still in Latin ; and in this language the students are examined at the end of the week, on the subjects which have been lectured on during that time. But the Normal School is of too useful a nature not to say for what end it was established ; it is designed to form teachers or instructors for the provincial towns and villages ; that is, teachers for the schools and *gymnasia*.

Here is no academy of sciences, and I believe there never was one. This is remarkable in so large a city as Vienna. A great deal has been

been said upon the advantages and disadvantages of learned societies. If it were left to be decided by the travelling literati, it would, notwithstanding the disadvantages arising from literary cabals and intrigues, which often happen in them, particularly where a seat leads to honours and emoluments, be decided in their favour. This deficiency of a place of rendezvous for men of letters was lately supplied by the public-spirited and hospitable Baron Born, who, besides being at all times, when not occupied in the business of his office, of easy access, particularly to strangers, had his public days. Since his death Professor Jacquin has a tea party on the Wednesdays; but it is ill attended.

In collections Vienna is very rich: The Imperial library, besides containing 5 or 6000 volumes printed in the 15th century, rare manuscripts, and a very extensive and valuable collection of prints, is well furnished with useful modern books. It is open three or four hours every morning to the public, and the librarian and inferior assistants are very attentive and obliging.

The library of the university is open for two or three hours morning and afternoon; during which time the librarians always labour under a *Carus* *, a disease common to university librarians.

* *Carus* est somnus altissimus, vix, aut ne vix, excitabilis, sine stertore, cum respirazione tacita pacatissima; semiapertis oculis plerumque dormiunt omnino immobiles.

SAGAR. Syst. Morborum.

The richness of the Imperial Cabinet of Medals is well known.

Its collections in natural history are still more valuable. The private collections of several amateurs would in other countries be thought fine public museums. In professor Jacquin's collection of minerals are found the most splendid specimens of the rarest fossils. Mr. Fichtel, known to the mineralogical world by his account of the Petrifications and Salt-mines of Transylvania, and his Mineralogical Remarks on the Carpathian Mountains, and some smaller works, has a very rich collection. His native and mineralized gold ores of Hungary and Transylvania are very fine. Geognosy being a favourite study with him, he has collected together a great many of the Mountain-foeks; the most remarkable of which are his volcanic, or pseudo-volcanic, productions from the district of Tokay. If many of these are not volcanic, I can find no oryctognostic character to distinguish them from those I have seen in collections formed in indisputable volcanic countries; and which I have myself, in my travels in Italy, Sicily, and its neighbouring islands, collected in their native places. Cruel wars (but without bloodshed) have been carrying on for some years in Germany, between the two parties, the Neptunists and Volcanists. On the side of the latter this excellent man has ranged himself; and it seems when he takes his pen in hand he has *il Vesuvio in petto*.

I have generally observed a sneer in the countenances of the mineralogists of this city, when on the topic of his late discovery of a kind.

kind of Zeolite, which forms, according to his account, entire hills. Truly it differs much from the hitherto known Zeolites in its external appearances, being nearer allied to the Pitchstone (*Peckstein*); but not in its chemical characters: though I believe we shall find many of the black Pitchstones to have more of the properties of Zeolite than of the Misnia Pitchstone. But when I speak of the Tokay district, I shall be more particular on this fossil.

He possesses the greatest fossil thigh-bone of an elephant that probably exists. It is exactly five feet, English measure, in length, and four feet round the knee: it was found in Transylvania. The great thigh-bone in the Imperial collection is only four feet long: and that of the skeleton of the elephant in the museum of the university of Vienna, which is eight feet and a half from the ground to the end of the spinal process of the highest of the dorsal vertebrae, is only three feet two inches: to what an immense animal must not this have belonged!

The-Count Wrba, an excellent mineralogist, and well versed in metallurgy and mining, has a no less valuable collection. He has specimens of crystallized red silver ore of surprising beauty, and intrinsic value. It is principally to him we are indebted for the red Shorl of Rhonitz in Hungary. He was at considerable expence in digging for it, to supply his own collection and those of his friends.

Mr. Sonnelfels has a small collection, chiefly of showy specimens.

I think

I think it was here I saw a piece of green Sal Gemmæ, which I was informed was from Saltzburg.

The collection of Miss Raab, formed chiefly by donations from Mr. Born, who published a *catalogue raisonné* of it in 1790, is composed of small chosen specimens. It was to be disposed of for three thousand ducats. Some of the preceding are likewise to be disposed of, if a large sum be offered. Forming mineral collections, in Germany, is often a pecuniary speculation. Professors Haidinger, Jordan, and Poda have small collections; and small collections in such hands are more interesting to see, than splendid ones with people ignorant of the science.

There are more private collections; but they are mostly repetitions of the same things, chiefly the produce of the Austrian hereditary dominions, so rich in mines; and are all in much greater perfection and profusion in the Imperial collection, which is certainly the first in Europe, that is, in Fossils, Shells, and Lithophytes. Those objects which are liable to become a prey to moths and other insects, have no place here. Hungary and Transylvania have sent hither their native and mineralized gold ores, their Opals and petrified wood. Of the *Opalus nobilis*, or true Opal, there is a specimen of the size of the fist: it is known to have been in Vienna for these two hundred years, and has, like most large Opals, several small cracks. Of that particular kind of petrified wood almost peculiar to Hungary, the *Opalus ligneus*,

lignus, there are trunks of trees. Carniolia has paid its tribute in its quicksilver ores; Carinthia, in its *Plumbum flavum*, and *Zincum crystallinum*; Styria, in its *Flos ferri*; Bohemia, in its crystallized Tin and Tungstein; Moravia, in its *Lepidolites*; Galicia, in its Salt. In short, the most splendid specimens of the whole hereditary mines are found here. But it is not confined to indigenous fossils. The rarest Siberian fossils, and the volcanic productions of Italy, are found here in profusion. There is a slab of the elastic stone (*arenareus flexilis*), above two feet long, eighteen inches broad, and nearly one and a half thick: it was bought at Lisbon. One of the interesting, but not splendid specimens is a block of the *Porphyrius schistofus*, with balls of the same, perfectly round, four or five inches diameter, nodulating in it. But to mention all the fossils of this superb collection, would be to give the nomenclature of mineralogy.

The Lithophytes and Shells are likewise very numerous and valuable. The collection of Florentine Mosaics, in an adjoining room, is not to be equalled.

This fine collection is conducted on a liberal plan; it is open to the public every Tuesday morning, and I believe every day of the week to the cognoscenti who will be at the trouble of making themselves known to the directors.

The collection of the university is very poor in fossils. The
zoological

zoological part is good, but going to decay. I noticed a fine Elephant, well prepared; one or two Lions, two Leopards, a Tiger, the Mexican Cat (*Felis pardalis*), *Viverra Genetta* & *Narica*, the short-tailed Opossum and Kangurugh (*Didelphis brachyura et gigantea*), a Wild Boar and Mexican Hog (*Sus Afer et Taiassa*), the Blue Antelope, White-faced Antelope, Barbary Antelope, and Chamois (*Antelope leucophea, pygarga, Dorcas, et rupicapra*); a Hyæna, a Sloth (*Bradypus tridactylus*), the Spotted Ape, Silky Monkey, &c. &c. (*Simia Digna, Rosalia, Aegula, Petaurista*). The Birds are numerous and in good order, but the Amphibia are few. Here is a fine skeleton of an Elephant and of a Dromedary, both are without the futures of the *os intermaxillare*; likewise one of an Ostrich. In the collection of anatomical preparations there are two fine skeletons of a Lion and Lionsess, and both are without these futures.

The Secretary of Mareschal Laschy, Mr. Pittoni a druggist, Mr. Mark, and two or three more whose names I have forgotten, have small collections of insects.

Tombacher, a very honest man, but poor, sells insects. As his prices are low, and many of the insects are not found in our island, I think it may be agreeable to our entomologists to have a copy of his catalogue of coleoptera, with their prices. It is in Austrian money: A Gulden is about two shillings, and sixty Creutzers make a Gulden. His address is *Matthæus Tombacher, Insekten Handler, auf der Wieden, Vienna.*

VIENNA.

9

No.	Names.	Price.	No.	Names.	Price.	No.	Names.	Price.
		fl. cr.			fl. cr.			fl. cr.
1	Ceramb. alpinus	30	52	Lept. 6-guttata	3	103	Buprest. 4-punctata *	3
2	— Heros *	15	53	— ustulata	3	104	— Rubi	5
3	Lamia textor *	15	54	— nigra *	5	105	— lœta *	6
4	Saperda Carcharias	15	55	— meridian.	10	106	— Salicis	10
5	Ceramb. Cerdo *	2	56	Necyd. cœrulea	3	107	Pyrochroa coccin. v. *	3
6	Lamia futor *	15	57	Stenoc. merid. var.	15	108	Lamia Kachleri	40
7	Prionus coriarius *	15	58	Lept. livida *	2	109	Callid. sanguineum *	3
8	— scabricornis *	50	59	— melanura	2	110	Crioceris merdigera *	2
9	Ceramb. œdilis	5	60	Canth. melanura	3	111	Clerus apiarius	2
10	Lept. calcarata	2	61	Necyd. ustulata	3	112	Saperda ferrea	5
11	Canth. fennicum	2	62	— Podagrariae *	3	113	Ceramb. varius	1
12	Lept. 4-fasciata *	5	63	Canth. 2-punct.	3	114	— hispidus	5
13	— rubra *	3	64	Lept. sanguinol.	4	115	— nebulosus	5
14	Lamia morio var. Æthiops	3	65	— collaris	4	116	Lept. virens *	3
15	— morio var. fulvus	3	66	Idem. var.	3	117	Saperd. tremula *	20
16	— pedestris	3	67	Carab. crepitans	2	119	Lept. cerambiciform.	2
17	Stenoc. elytr. rubris	15	68	Donac. crassip. var.	10	120	Saperd. occulata	15
18	Lept. testacea var. *	4	69	Canth. ruficollis	3	121	Lucan. parallel. *	2
19	Callid. arcuatum	3	70	Leptura strigilata ?	3	122	Byrrhus gigas	1
20	— arietis *	3	71	— lurida	5	123	Scarab. quadridens	20
21	— ornatum *	10	72	Necyd. rufa	5	124	Lucan. caraboides *	5
22	— florale	5	73	Ceramb. carbonar.	3	126	Chrysom. speciosa	3
23	Lept. humeralis	20	74	Lept. sanguinol. *	4	127	Crypt. 4-punctatus *	2
24	Callid. myficum *	2	75	— atra *	3	128	— longipes *	2
25	— plebeium	2	76	Callid. detritum *	15	129	— 4-punct. ? var.	2
26	— clavipes *	5	77	Lamia curculionoides *	3	130	— 3-dentatus *	4
27	Lept. 4-maculata *	5	79	Callid. striatum Laicharting	2	131	— longimanus	2
28	Rhag. mordax	2	80	Lytta fysiaca *	4	133	Apate Capucinus	5
29	— bifasciatum	3	81	— erythroceph. *	3	134	Chryf. Adonidis *	5
30	— indagator ? *	4	82	Canth. livida *	3	135	Crioceris Capreæ	3
31	Stenoc. tot. ater	20	83	Helops lanipes *	2	136	Cryptocep. 6-punct. *	4
32	Callid. Bajulus *	1	84	Mylabr. Cychorei	3	137	Chryf. sacra *	5
33	Saperda Cardui	5	85	Clerus formicarius.	3	138	— 6-punct. *	2
34	Lamia lineata *	30	86	— formicaroides	3	139	Coccin. 14-gutt.	2
35	Saperd. populnea *	5	87	Necyd. scladonia	5	140	— conglobata ??	2
36	Canth. livida	2	88	Synodendron cylindricum	10	141	— 6-pust. *	2
37	— fusca	1	89	Chryf. tenebricosa *	3	142	Chryf. alni *	2
38	Pyrochroa coccinea	5	90	Buprest. mariana *	5	143	Crypt. 2-punct. *	2
39	Lycus sanguineus *	2	91	— lugubris	10	144	Scarab. rufipes	3
40	Spondylis buprestoides *	5	92	— Querci	5	145	Cryfom. staphylaea	3
41	Callid. confusum *	15	93	— rustica	5	146	— fastuosa	3
42	Lept. punctata	10	94	— chrysoligma *	3	147	— prætiofa	3
43	Callid. violaceum *	5	95	— rutilans *	5	148	Canth. nigra	3
44	Donacia crassipes	10	96	— quadripunct. ? *	15	149	Chrysom. obscura	3
45	Lept. attenuata	5	97	— 2-guttata *	5	150	Opatrum crenatum	5
46	Id. var. *	5	98	— viridis *	5	151	Galeruca coccinea	3
47	Lept. nov. sp.	10	99	— maculata	10	152	Crypt. fericeus *	3
48	Cist. cervina *	3	100	— tæniata	10	153	— violaceus, var. *	3
49	Lept. dimidiata	3	101	— cyanea	6			
50	Ceramb. nebulosus	5	102	— berolinensis	10			
51	Lept. 2-punctata *	3						

C

154 Crypt.

No.	Names.	Price.	No.	Names.	Price.	No.	Names.	Price.
		fl. cr.			fl. cr.			fl. cr.
154	Crypt. cupreus, var.	3	205	Scarab. scutellaris	5	256	Scarab. ovatus	3
155	— scopolinus	5	206	Elater cupreus	10	257	— nuchicornis	2
156	— auritus	3	207	— murinus *	3	258	— fordicus *	2
157	— cyaneus *	3	208	— germanus	2	259	Carab. crux major	3
158	— bipustulatus.	3	209	— aterrimus	5	260	Curcul. Nucum	10
159	— violaceus	3	210	— æneus	2	261	Cicindela campest. *	2
160	— Moræi *	3	211	— obscurus	5	262	— viennensis	3
161	Chryf. gloriosa	2	212	— sanguinol.	5	263	— germanica	3
162	— aucta	3	213	— sanguineus	5	264	Curc. variolosus	5
163	— limbata *	3	214	— id. var.	3	265	— sulcirostris	2
164	— 20-punct. *	3	215	— obscurus	5	266	— id. var.	5
165	— sanguinol.	2	216	— aterrimus	10	267	— tenebricosus	3
166	Diaperis Boleti *	3	217	— flavipes	3	268	— chrysopterus	2
167	Chryf. ænea	5	218	— marginatus	3	269	— punctatulus	3
168	Crypt. Coryli *	3	219	— castaneus	5	270	— gemmatus *	3
169	Chryf. Morio	3	221	Sylpha grossa	5	271	— elegans	5
170	— 10-punctata *	3	222	— thoracica *	5	272	— leopardicus	3
171	— hæmoptera	5	223	— lævigata	2	273	— Colon *	2
172	— marginata	2	224	— reticulata	2	274	— cinereus	2
173	Byrrhus pilula *	2	225	— rugosa *	3	276	— danubialis	3
174	Trichius hemipter. *	4	226	Trox fabulosus *	4	277	— palliatus	2
175	Chryf. Tanaceti *	2	227	Opatrum fabulosum *	3	278	— viridis	2
176	— Tanac. var.	2	228	Sylpha 4-punct. *	5	279	— id. var. 1	2
177	Carab. spinipes	5	229	Cassida ferruginea *	2	280	— id. var. 2	2
178	— vestitus	5	230	— limbata	5	281	— argentatus	3
179	— pallens	5	231	— affinis, var.	3	282	— juniperinus	3
180	Anthrib. albirostris	5	232	— viridis *	3	283	— Jaceæ	3
181	— albinus *	3	233	Scarab. Schreberi *	2	284	— tristis	10
182	Carab. Mulleri ?	2	234	Lethrus cephalotes	40	285	— marginellus	5
183	— 6-punct.	3	235	Scarab. nalicorn.	10	286	— violaceus	3
184	— chalybeat.	2	236	— lunaris *	3	287	— nov. sp.	3
185	— aterrimus *	2	237	— juvenus	5	288	— argent. var.	3
186	— chalyb. var.	2	238	Hister unicolor	10	289	Atellabus curculion. *	5
187	— nov. sp.	5	239	Scarab. nov. sp.	20	290	Curc. Scrofulariæ *	2
188	— nov. sp.	10	240	— fossor	3	292	— notatus	5
189	— leucophth. *	2	241	— subterranean.	3	293	Crioceris Asparagi	2
190	Nicroph. Vespillo	3	242	— pillular. *	2	294	— Betulæ	3
191	Carab. fabulosus	5	243	— Schæfferi *	3	295	— argent. var.	2
192	— cephalotes *	10	244	— taurus *	5	297	Curc. argent. var.	2
193	— marginatus	10	245	— flavipes *	2	298	— Bacchus *	2
194	— vulgaris	3	246	Hister bimacul. *	2	299	— Populi ? *	3
195	— hortensis	30	247	— 4-maculat.	2	300	— purpureus ?	3
196	— nitens	40	248	— unicolor	2	301	— bimacul. ??	3
197	— inquisitor *	5	249	Chryf. Lemur	3	302	— id. var. minor	3
198	— sycophanta *	5	250	Scarab. fimetar. *	2	303	— roridus	10
199	— granulatus *	5	251	— luridus *	2	304	— violaceus ?	3
200	— granulatus ?	5	252	Spherid. scarabacoides	2	305	— abbreviatus	4
201	— purpurascens *	5	254	— scybalarius *	2	306	— æquatus *	3
202	— coriaceus *	10	255	— bimaculatus	12			
203	— pilosus	5						
204	Elaphrus riparius	5						

VIENNA.

11

No.	Names.	Price.	No.	Names.	Price.	No.	Names.	Price.
		fl. cr.			fl. cr.			fl. cr.
307	Curc. Pinetorum?	3	330	Curc. cylindricus	5	353	Melol. Frischii	2
308	— Aurora	3	331	Bostr. typographus *	2	354	— pulverulenta	3
309	— viridi æris	2	332	Chryf. vulgar. var.	2	355	— ruricola *	3
310	— Colon, var.	2	333	Melol. Fullo	20	356	Carab. cyanoceph. *	5
311	— id. var. 2	2	334	Ceton. Eremita *	5	357	Saperda lineola	5
312	— crispatus	30	335	— fastuosa	20	358	Crioceris 12-punctat.	3
313	— Vau.	10	336	— marmorata *	3	359	Malach. æneus	2
314	— albidus	10	337	— aurata	2	360	Coccinella ocellata *	10
315	— holosericeus	3	338	— viridis	5	361	Ptinus Fur	3
316	— germanus, fem. *	10	339	— nobilis	8	362	Malachius 2-pust.	2
317	— id. var. *	5	340	Melol. vulgaris	1	363	Mordella fasciata	2
318	— Momus	2	341	— æquinoctialis	3	364	Bruchus Pisi	5
319	— Maurus	2	342	— solstitialis	3	365	Buprestis tenebrion *	
320	— niger *	5	343	— castanea	5	366	— decolligima	
321	— Abietis *	5	344	Trichius fasciatus *	2	368	Callid. præustum	
322	— ovatus	5	345	Melol. agricola	2	369	Saperda ficalaris *	
323	— Lapathi	5	346	— id. var.	2	370	Sylpha littoralis	
324	— ovatus, var.	5	347	— dubia *	3	371	Nicroph. germanicus	
325	— id. var.	2	348	Ceton. hirta *	2	372	Melolont. villosa	
326	— paraplecticus	20	349	— stictica	2	373	Elophor aquaticus	
327	— notatus	5	350	Chryf. Hottontota	5	374	Scar. facer	
329	— nubilus	5	351	Melol. horticola	2			
			352	— argentea	3			

without the prices.

N. B. Those that are marked with an * I found to be correct in the nomenclature: the others I had no opportunity of examining.

The markets next claim the attention of the naturalist; and these, to the Vienna people, who are noted for being addicted *à la gourmandise*, are things of the first moment: a deficiency in livers of geese and small birds might cause a revolution, or be considered as a sufficient cause of delivering up the city if besieged. They are well supplied. I have sometimes seen a score of Wild Hogs, and a dozen of Stags in the game market at the same time, and Hares literally by cart-loads, with abundance of Pheasants and Partridges, and sometimes the Ptarmigan, and the Hazel-Grouse, *Tetrao*

C 2

Lagopus

Lagopus & *Bonasia*. The small birds are there by myriads: the Brambling, *Fringilla Montifringilla*; Tree-Sparrow, *F. montana*; Siskin, *F. Spinus*; and Cross-bill, *Loxia curvirostra*, were in the greatest plenty: yet Black-birds, *Turdus Merula*; Thrushes, *T. viscivorus*; Field-fares, *T. pilaris*; Red-wings, *T. iliacus*; Greenfinches, *Loxia Chloris*; House-sparrows, *Fringilla domestica*; Larks; the common Gull, *Larus cinereus*; the green and greater spotted Wood-peckers, *Picus viridis* & *major*, were here: and even birds unclean, and forbidden by Moses, as Hawks, Magpies, Jays, Butcher-birds, and Nutcrackers, *Corvus caryocatactes*. Even the Bullfinch and Robin are not spared.

The livers of geese are esteemed a great delicacy: they are eaten stewed. Some poulterers have a method of making them grow to an enormous size. This is kept a secret amongst the Jews, who are the principal feeders. I have been informed by different people, that the geese are only kept in very small pens, where they cannot move, and are crammed chiefly with Indian wheat, and are allowed little or no water. This is as much a subject of pathology as of œconomy: to an English palate they are not so good as calves' liver.

Some of the tame hogs that supply the Vienna market ought to be particularly noticed; I mean those which come from the Turkish frontiers, from Bosnia and Servia. When they arrive at Vienna, though they have performed so long a journey, they are so fat

as scarce to be able to walk, and can only travel a few miles in a day. They are the handsomest of the hog kind, and apparently of a mild disposition. What makes me particularly mention them is their skin, which is covered, exclusive of the usual bristles, with a coarse kind of wool, like that of the wild hog.

From hot-blooded animals I will pass to the cold. Sturgeon is always in the market, but not cheap; it generally sells for 18 pence a pound: it is caught in the Danube about Offen, and even as low down as Belgrade. The *Silurus Glanus*, often six or eight feet long: Carp, which is in the greatest plenty, is about 6 pence a pound. The var. β , the *Spiegel Karpfe* of the Germans, is very common, and very various in its distinguishing character, the scales. Often in the same tub are seen, some with one row only of large scales, others with two rows, and many in which the great scales are placed without any order; some have many, others have few. Pike, *Esox Lucius*; Tench, *Cyprinus Tinca*; Barbel, *Cyprinus Barbus*; Perch, *Perca fluviatilis*; Trout; and the Burbot, *Gadus lota*, are likewise common.

As an appendage to the fish market, is the tortoise, frog and snail market. There are two species of Tortoises, the *orbicularis*, and the *græca*. The first is considered as the most delicate; it is the food of the opulent: one 7 or 8 inches long costs about a shilling. The latter is chiefly used for soup, and is something cheaper. When I saw these animals in the frosty weather, they shewed no signs of life, and were:

were lying in all directions like so many stones; when I brought them into my room, they generally remained torpid, till they had been there a couple of hours. The market people know how to distinguish the males from the females, by the sternum of the latter being more convex, viewed from without, than in the males; hence they are thicker.

Frogs are another delicacy. Both the edible, *esculenta*, and the common Frog, *temporaria*, are eaten; but the latter is much less esteemed, as its flesh is not so white. It is the hind legs which are in request: 2 pairs cost about three halfpence; they are therefore by no means a cheap dish. The fore legs and livers are mostly used for soup.

These poor animals are brought from the country thirty or forty thousand at a time, and sold to the great dealers, who have conservatories for them. These are large holes, four or five feet deep, dug in the ground, the mouth of which is covered with a board, and with straw in severe weather. I have often visited these conservatories in the hard frost, but never found their inhabitants quite torpid. When I placed them on their backs, they were sensible of the change, and had strength to turn themselves. They get together in heaps, one upon another, instinctively, and thereby prevent the evaporation of their humidity: no water is given them. I found many of them dead, and not for want of water, as I found this fluid in their bladder. Many I imagine had died of the injuries they had received during their

their captivity; others, no doubt, by being arrived at that period at which the powers of life are feeble, and easily destroyed. There are only three great dealers: these supply most of those who bring them to the market ready for the cook. The Snail, *Helix pomatia*, closes the list of *maigre* dishes. It is not eaten through economy, as seven of them, at the *traiteurs*, are charged the same as a plate of veal or beef. They are eaten boiled, fried in butter, and sometimes stuffed with farce meat. The firmness remains after being dressed, yet they are considered as a delicacy!!! but *De gustibus non est disputandum*. The greatest quantity and the finest come from Suabia. The fondness of the good people of Vienna for these things is no new capricious taste; for Dr. Brown, who was here above a century ago, makes the remark in his travels, that, since their markets were so well provided, "he was surprised to meet with some odd dishes at their tables, as guinea pigs, divers sorts of snails, and tortoises."

The public amusements of this city, which are numerous, under Theresa and Joseph II. were much refined. The two theatres within the city are very magnificent. Madame Vigano from Spain, whilst I was at Vienna, honoured them with her dancing, and exhibited the finest taste and the greatest elegance. Her attitudes were sublime; and her loose and open Grecian dress, which only concealed so much of her person as to heighten the charms of the beauty she left exposed,

posed, raised into passion the admiration of every one possessed of fine taste and sensibility.

In the suburbs there are several smaller theatres : and at one of these it was where I heard *Mozart's Sauberflöte*, the sweetest music ever composed. And of those kinds of resorts, which serve as places of relaxation and debauch to the inferior ranks of life, and to those of grosser taste; where music, dancing, feasting, and women of the town, are to be had at cheap rates, this city and its suburbs abound. These, the public amusements, the pleasures of the table, and what the French call *la physique de l'amour*, are the great sources of the happiness of the opulent part of the inhabitants of this city, as they are indeed of the inhabitants of other great towns where affluence abounds. But there exists a public amusement here which does not shew much refinement of manners, of which we know nothing in our dissipated metropolis, and which probably ought not to be permitted any where, though indeed something of the kind, on a smaller scale, is a favourite amusement with our butcher boys under the name of bull-baiting : it is the *Hetze*, or *le combat des animaux*. It is not the low vulgar alone who come here, but *gentlemen and ladies* ; and it is generally a *Sunday evening's amusement*, as a *delassement* after the religious duties of the day.

When, as amongst the Romans, the strongest and the fiercest
animals

animals of Asia and Africa, in their native wildness were, on particular occasions, turned loose on the arena, it might for once have formed an interesting spectacle, where the sufferings of the combatants might be lost in the novelty of the sight; but where a few dispirited oxen, under the name of wild Hungarian bulls, and half humanized bears, are turned out to be lugged by the ears by dogs, I see nothing but cruelty. The fiercer and rarer animals, when there are any, are too valuable to be fairly exposed; and the havoc they would make among the dogs would render this a too expensive amusement: but the inquisitive traveller is often obliged to be present at scenes he does not wish to countenance. I went there to see the *Bos ferus*, or Wild Bull. He came on the arena with great dignity and composure; a good many dogs, I think not less than eight or ten, were set upon him; he did not move, but kept his place, his head to the ground, and with his short horns defended himself admirably well; the sneaking curs that attacked him behind he kicked down:—it would have grieved me much to have seen him overpowered. He had no fierceness, nothing but grandeur in his looks; he was brought young from Poland, and is now tame. Other animals were turned out, but they were all more anxious to get back to their dens than to fight.

From scenes like these, from scenes of misery, where the sufferings of one part of the creation are made the pastime of the other,

D.

let:

Let us turn to that beautiful and peaceful part of nature, the vegetable world. The environs of this city are not less rich in the productions of this kingdom, than the city itself is in those of the mineral; and the Imperial garden of Schoenbrunn I think even surpasses the Imperial collection I lately described.

This is only an hour's walk from Vienna; and in the severe winter of 1793 I often went there to enjoy the beauties of a tropical climate. What a pleasing contrast, when, from being battered with driving fleet, or covered with snow in my way thither, whilst the vegetable world was dead, and the very earth was hid by snow from my sight, I stepped into these hot-houses, rich with odours, and adorned with the rarest palms!

These hot-houses, I believe, are the finest in Europe. One range is ninety yards long and thirty feet high within; another range is nearly as high, and above a hundred yards long:—part of this is a greenhouse: and three more ranges of hot-houses, each about eighty yards long, but much lower than the former; and lastly two or three small green-houses, in one of which the alpine plants are kept during winter, as Mr. Boose, the gardener, thinks the Vienna winter too severe for them.

The inhabitants of these princely buildings are no ways unworthy of them; the rarest palms and shrubs peculiar to the tropics grow

grow here in their native pride. The *Corypha umbraculifera* extends its large leaves twelve or fourteen feet around; the *Caryota urens* ascends to the height of sixteen or eighteen feet; the *Cocos nucifera* and *Elæis guineensis* grow with great luxuriance; and many rare shrubs, natives of the same favoured climate, though not so peculiarly indicative of their country, are here equally exuberant. The *Citbarexylum quadrangulare* is twenty feet high; *Bignonia Leucoxylon*, *Malpighia glabra*, and the Coffee Tree, sixteen feet; and the *Ruitzia laciniata*, *Carolinea princeps* & *insignis*, with other less rare, twelve to fourteen. The *Rhapis flabelliformis* has a *stipes* above ten feet high; the *Hernandia sonchra* and *Helicteres apetala*, with their large leaves, contribute their part to beautify this princely collection. Besides these, I observed the following rare shrubs: *Urtica baccifera*, *Trichilia spondioides*, *Goccoloba pubescens* & *excoriata*, *Tabernaemontana citrifolia grandiflora* & *persicariifolia*, *Morus mauritiana*, male and female, the latter in fruit. *Terminalia Catappa*, *Malpighia glandulifera* & *coccigera*. *Cecropia peltata*, *Daphne umbellata*, *Geoffroya inermis*, *Mimosa cornigera* & *fuga*, *Mirtus balsamifera*, *Jacquinia armillaris* & *ruscifolia*, *Amyris maritima*, *Besleria bivalvis*, *Melicocca bijuga*, *Laugeria odorata*, *Alpinia comosa*, *Trilix lutea*, *Ebretia exsucca*, *Maranta lutea*, *Samyda ferrulata*, *Pandanus odoratissimus*, *Cassine capensis*, *Eugenia Iambos*, *Theophrasta longifolia*, *pinnata* & *americana*, *Schotia speciosa*, *Triplaris americana*, *Solanum stellatum fugax giganteum* & *aggregatum*, *Euphorbia punicea*, *Phyllanthus nutans*, with several species of the *Banisteria*; three

Species of *Clusia*, four of *Brownea*, and the *Cookia* in full flower. Many of these shrubs are scarcely found in any other collection in Europe; and the more humble genera of *Potbos*, *Arum*, and *Zamia*, of which there is here the *crassinervia*, *grandifolia*, *digitata* & *pinnata* of the first genus; the *Colocasia*, *esculentum*, *seguinum*, & *hederaceum* of the second; and the *integrifolia*, *media*, *angustifolia* & *Cycadis* of the last, adorn, by their singular appearance, this collection.

This is not a catalogue of the rare plants in these vast conservatories, but a list of a few, which struck me most, and which I best recollect. But a little ill-natured squabble, such as will sometimes happen, even amongst the best of men, has been the cause of a catalogue of the rarest being published in Baldinger's Physician's Magazine, which I shall transcribe, as this work, like most that are published in the German language, is little known in our island. It is by Dr. Baumgarten, author of the *Flora Lipsiensis*, who, in the 15th number of that magazine, has published a defence of the botanical establishments of Vienna, which were severely criticised by an anonymous writer in the preceding volume of the same magazine, where Mr. Jacquin is treated with great severity; greater probably than is just. But however justly he may have censured the director of the botanic garden of the university, his censure on the Imperial garden, and its superintendant Mr. Boose,

appears to me to be very unjust. That it should not be permitted to every one to go into the hot-houses alone, or to help themselves to specimens, is not an unnecessary regulation for a garden so near one of the most populous cities in Europe. But if it be difficult to get admittance into the garden of the university without a *bono mano*, or a well powdered head and embroidered coat (which with the *old* Jacquin, I think, would be but a small recommendation), when love for the science should be considered as the first claim, it is not so in the garden under the inspection of Mr. Boose. His time, which is much taken up with this extensive establishment (the Menagerie being likewise under his care), and with the numbers of strangers and people of fashion who come to see it, is at the service of every scientific man who will call upon him; and specimens of plants likewise, if they can be spared, without his ever thinking of receiving a gratuity for his trouble. It should be recollected, likewise, that though the garden of the university was destined for the study of botany, this was not, and is only considered a public garden from the liberal manner in which it is conducted. However, between Mr. Anonymous and Dr. Baumgarten, all the botanists at Vienna have been censured; for those whom Anonymous commends the Doctor discommends, only perhaps to prove that his praises are misapplied. The most interesting thing in this affair is the following catalogue of the rarest plants of this garden, which the Doctor has inserted to shew how valuable a collection Mr. Boose has under his care.

Achras

Achras mammosa & *Sapota*. *Adansonia digitata* and a new sp. *Ægiphila martinicensis*. *Alamanda cathartica*. *Alpinia comosa* & *spicata*. *Amyris maritima* & *toxifera*. *Anacardium orientale*. *Annona muricata*, *palustris*, *reticulata* & *squamosa*. *Aquartia aculeata*. *Aralia capitata*, and others. *Arctotis acaulis*, *annua*, *calendulacea*, with a great many new species. *Areca oleracea*. *Aristolochia anguicida*, *bilobata*, *caudata*, *peltata*, &c. *Artocarpus integrifolia*. *Asparagus capensis*. *Aucuba japonica*. *Averrhoa acida* & *Bilimbi*, &c. *Banisteria*, *angulata* & *ciliaris*, with a great many new species. *Bauhinia aculeata* & *porrecta*. *Bignonia æquinoctialis*, *cœrulea*, *capreolata*, *Leucoxylon*, *paniculata*, *Runs* & *Unguis cati*. *Boehmeria ramiflora*. *Bombax Ceiba*. *Bontia daphnoides*. *Brownea coccinea*, *grandiceps*, with some new species. *Buddleia americana*, *capitata*, *salicifolia* & *salvifolia*. *Buttnera microphylla*. *Bursera gummiifera*. *Bixa orellana*. *Calamus Rotang*. *Capparis Breynia*, *cynophalophora*, *frondosa*, *tenuifiliqua*, *verrucosa*, and two unknown species. *Carica Papaya*, and some new species. *Carolinea insignis*. *Caryota urens*. *Cassia alata*, *bacillaris*, *bipedunculata*, *Fistula*, *polyphylla*, &c. *Cassine Peragua*. *Catebæa spinosa*. *Cedrela odorata*. *Celtis micrantha*. *Cecropia peltata*. *Ceropegia sagittata*. *Cestrum auriculatum*, *Parqui*, &c. *Chiococca racemosa*. *Chironia frutescens*. *Chrysophyllum Cainito*. *Cinchona caribæa*. *Cissampelos Pereira* & *smilacina*. *Cissus acida* & *quadrangularis*. *Citharexylum cinereum*, &c. *Clusia flava*. *Coccoloba excoriata* & *pubescens*, &c. *Cocos nucifera*. *Coffea occidentalis*. *Conocarpus erecta*. *Convolvulus Batatus*, *brasiliensis*, *pentanthas*,

thas, &c. *Cordia Sebestena*. *Corypha minor* & *umbraculifera*. *Costus arabicus*. *Crescentia cucurbitina*, *Cujete* & *pinnata*. *Croton pungens* & *sebiferum*. *Cycas circinalis* & *revoluta*. *Cynometra ramiflora*. *Dalechampia scandens*. *Daphne umbellata*. *Dioscorea alata*, *bulbifera* & *triphyllus*. *Diospyrus Ebenum*, &c. *Duranta Plumieri*, &c. *Echites corymbosa*. *Ehretia tinifolia*. *Epidendrum ciliare*, *cochleatum*, *elongatum*, *nodosum*, & *Vanilla*. *Ernodea littoralis*. *Eugenia baruenfis*, &c. *Euphorbia Caput Medusæ*, *Clava*, *cotinifolia*, *nudiflora*, *punicea*, &c. *Eupatorium Dalea*, *perfoliatum*, &c. *Fagara Pterota*, & *tragodes*. *Flagellaria indica*. *Ficus benjamina*, *jamaicensis*, *puindica*, *nymphæifolia*, *pumila*, *racemosa*, *religiosa*, *stilacea*, &c. *Galega caribæa*. *Gardenia florida* & *Thunbergia*. *Genipa americana*. *Geoffroya inermis*. *Glycina angustifolia* Jacq. *tomentosa*, &c. *Gronovia scandens*. *Guajacum officinale*. *Guettarda speciosa*. *Guilandina Bonduc*, *Bonducella* & *Moringa*. *Hamellia chrysantha* & *patens*. *Hedysarum umbellatum*. *Heliconia Bihai* & *reginæ*. *Heliicteres apetala*. *Heliocarpus americanus*. *Hernandia sonora*. *Hippomane Mancinella*. *Hymenæa*, *Courbaril*. *Hyptis capitata*. *Jacquinia armillaris* & *ruscifolia*. *Jatropha Janipha*. *Manihot*, *moluccana* & *multifida*. *Justicia bracteolata*, *caracasana*, *coccinea*, *Ecbolium*, *pulcherrima*, &c. *Ixora coccinea*. *Kirganella mauritiana*, Juss. *Laugeria odorata*. *Laurus Camphora*, *Cinnamomum* & *indica*. *Lawsonia spinosa*. *Malpighia coccigera*, *glandulosa*, with some new species. *Mangifera indica*. *Maranta lutea*. *Melicocca bijuga*. *Mimosa campeschiana*, *caracasana*, *cinerea*, *circinalis*, *cornigera*, *fagifolia*, *glauca*, *horrida*, *Inga*, *Lebbeck*, *portoricensis*,

portoricensis, punctata, scandens, sensitiva, simplicifolia, speciosa, tamarindifolia, Unguis Cati, &c. Morus mauritiana. Myginda Rhamcoma. Ochrosta maculata. Olea americana & fragrans. Panax aculeatum. Parkinsonia aculeata. Passiflora laurifolia, perfoliata, ferratifolia, &c. Paullinia cauliflora, hispida, mexicana, tomentosa, and some new species. Phyllanthus Epiphyllanthus, nutans, speciosus, &c. Piper aduncum, blandum, clusiæfolium, cuneifolium, decumanum, Dioscoriæfolium, Magnoliæfolium, marginatum, medium, Perefskiæfolium, rugosum, stellatum, umbellatum, & verrucosum. Pisonia acculeata. Pistacia narbonensis & vera, &c. Pitcairnia Bromeliæfolia. Plumieria alba, obtusa & rubra. Poinciana pulcherrima. Pothus crassifolia, digitata & grandifolia. Protea argentea, conifera. Levisanus, saligna, &c. Psidium pomiferum & pyrifera. Psoralea bipedunculata, carthagenensis, emphyodes, &c. Pteris caudata & serrata. Randia aculeata & mitis. Rauwolfia canescens, & nitida. Rhamnus colubrinus, ignaneus, Jujuba, &c. Rhipis flabelliformis. Ruizia laciniata. Samyda ferrulata. Sapindus Saponaria. Sideroxylon mastichodendron, melanophleum, mite & tenax, Smilax Saffaparilla. Solandra grandiflora. Selanum aggregatum, auriculatum, campechianum, ferox, fugax, giganteum, igneum, macrophyllum, stellatum, stramonifolium, tetrandrum, verbascifolium, &c. Sophora campensis, microphylla, tetraptera, &c. Spananthe paniculata. Spondias morubina, and a new species from Otaheite under the name of Evi. Sterculia foetida, &c. Swietenia Mahagoni. Tabernæmontana atrifolia, grandiflora & persicariæfolia. Tamus elephantipes. Taxus longifolia. Terminalia.

Terminalia Benzoe & *Catappa*. *Theobroma Cacao* & *Guazuma*. *Theophrasta americana*, *longifolia* & *pinnata*. *Tournefortia cymosa*, *fœtidissima* & *volubilis*. *Trilix lutea*. *Triplaris americana*. *Urtica arboræa*, *baccifera*, &c. *Varronia alba*, *bullata*, *curassavica*, &c. *Volkameria inermis*, &c. The four species of *Yucca*. *Zamia angustifolia*, *Cycadis integrifolia* & *media*. Besides these there are an immense number of bulbous plants from the Cape ; and a rich collection of the genera *Arum*, *Arctotis*, *Erodium*, *Geranium*, *Oxalis*, and *Pelargium*.

What adds greatly to the pleasure of walking in these houses is, the sight of a variety of rare birds flying about as in full liberty, and the hearing them sing, perched on the very trees which afforded them food or shelter in their native country. How pleasing it was to see the little *Spittacus pullarius* perched on a beautiful *Mimosa* in full flower, and the *Astrild*, *butyracea* and other *Loxia*, playing under the great leaves of the *Hernandia sonora* and *Helicteres apetala* ! The *Astrild* is very numerous, having bred here. Some *Nightingales* are likewise kept. These birds destroy ants and other insects which are so noxious in hot-houses. Here is likewise a long-tailed Dove or two from the Cape. There are many more *Loxia* and other rare birds in cages, and two or three *Simia*, but chained.

At the sight of such profusion of Nature's finest works, how could I not wish, whilst all without was congealed in ice, and covered with snow, to be transported to those highly favoured cli-

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mates from whence they came, to see them in their native country, and enjoy their Sun ! Yet so little does the happiness of nations depend on their natural advantages, not less than that of individuals on the smiles and frowns of fortune, that soon I might, probably, disgusted with the sight of human wretchedness, with myself back in our foggy island.

It was, I believe, when I took my farewell of these gardens, when the sap of trees had begun to move, that I met a pair just coming out of these buildings, whom sympathizing passions had hardly united, but probably disparity of fortunes. The beau seemed of a poor emaciated constitution, but anxious to make up to his fair one for natural deficiencies, by extraordinary attention. Her sparkling eye and rosy countenance indicated a *temperament* that ill adapted her to be the faithful mate of a worn-out fribble. As they passed me, I heard him expatiating on the passion of the tender-lover they had just left, the Dove. But what was her reply ?—Cutting to the quick !—O cruel fair ! thus to treat his tender affection !—Looking him full in the face—“ I don't love Doves that only coo.”

Near the principal hot-house there is a piece of ground for North American plants ; in the middle is a basin, with several aquatic plants, and the *Aponogeton distachion*, a plant from the Cape, is one of them. This winter (1793) was very severe, and the

the cold was as great as 17 degrees under 0 of Reaumur; so that the branch of the Danube that flows under the walls of this city, was so frozen, that it was walked over, as if it had been the high road. The basin was not spared; and I think the ice remained there till about the beginning of March. I took a walk here on the 4th of April, and I found this plant in flower; and about the same time another individual of the same species was in blossom in the hot-house.

Another part of the garden supplies the table of the Court.

Adjoining to the garden there is a menagerie, with three or four Camels; they have bred twice, but the young ones died soon after birth; two very fine Zebras, a male and a female; a *Quagga*; the Barbary Antelope, *Antelope Dorcas*; Caucasian Goat, *Capra caucasica*? two Porcupines; the Brazilian Weasel, *Viverra Nefua*; Long-nosed Cavy, *Cavia Aguti*; and several Apes and Monkeys.

Amongst the birds, I noticed the Ostrich, and Crested Curassow, *Crax Alektor*; the Crowned Pigeon, *Columba coronata*; several species of *Ardea*, as the Numidian Crane, *A. Virgo*; Common Crane, *A. Grus*; White Stork, *A. Ciconia*; Black Stork, *A. nigra*; Night Heron, *A. Nycticorax*; Common Heron, *A. major*; Little Egret, *A. Garzetta*; and Bittern, *A. Stellaris*. Several species of Parrots, amongst which were the Red and Blue Macaw, *Spittacus Macao*; and the Great Red-crested

Cockatoo, *S. molluccensis*; several Eagles and Vultures; two or three individuals of the great Eagle Owl, *Strix Bubo*; the Minor Grackle, *Gracula religiosa*; and several of the duck kind. All this belongs to the Imperial summer residence of Schœnbrunn; but it is more the public's than the Emperor's, being open to the curious at all times, and more particularly on the Sunday for the common people. It is under the care of Mr. Boose, who during his residence at the Cape, and in America, collected a great part of it which he brought over with him. He seems to fulfil his charge, both to his master and to the public, with great zeal and propriety; he is particularly attentive to strangers, and speaks three or four modern languages. I am, like other travellers, indebted to him for civilities, and for several specimens of rare plants. He has about twenty men under him. There is another gardener now at the Cape, who from time to time sends over fresh plants: he is soon to return accompanied by his spoils.

I must, out of gratitude, mention the names of those to whom we are indebted for this magnificent establishment: to Francis I. as founder, to whom we owe the Imperial museum; and to Theresa, Joseph II. and the present Emperor for supporting and enlarging it. Under Joseph one of the finest hot-houses was built, and the gardener, who is now at the Cape, sent out; and I have the pleasure to inform the friends of natural history, that the present emperor having learned in conversing with the gardener, that the plants were too crowded, hinted that another hot-house should soon be built, notwithstanding.

withstanding the present war. It is at his particular desire that Dr. Host, a very zealous and learned botanist, and author of several papers in the *Collectanea* of Mr. Jacquin, has within these few years formed a small garden for the plants of his hereditary dominions. The doctor has brought together a valuable collection of Alpine plants from the Carinthian, Styrian, and other Alps; in winter he covers them over with a little moss, which he finds to answer very well.

The botanical garden of the university I only saw in winter. There are two or three more gardens worth visiting, but this was not the season to see the productions of Flora.

News-mongers and loungers are not without their resources; Vienna teems with coffee-houses, and all of them have billiard-tables and newspapers. The following is a list of newspapers, magazines, &c. most of which are to be found at one coffee-house or another, and all to be bought at the post-office.

A LIST

A LIST of Home and Foreign Newspapers and Journals, which are to be had at the General Post-Office at Vienna, postage free, with their prices.

	Yearly.			Yearly.	
	fl.	cr.		fl.	cr.
ENGLISH.					
Lloyd's Evening Post	-	-	-46	* Journal general de France	-
The London Chronicle	-	-	-46	* ——— encyclopédique	-
* The Monthly Review	-	-	-24	* ——— des Modes & du Gout	-
				* Mercur de France	-
ITALIAN.					
Il nuovo Postiglione di Venezia	16			FOREIGN AND HOME GER-	
Il Corriere di Cabinetto da Milano	12			MAN NEWSPAPERS.	
* Ephemeridi litterarie di Roma ed				* Amaliens Erholungstunden	-
Antologia	-	-	-10	Anzeiger Gothaifcher	-
Gazetta universale di Fiorenza	-	-	-16	* Archenholz Minerva, 24-vol.	-
Notizie del Mondo di Venezia	-	-	-16	Augsburger Mafchenbaurifche	-
L'Offervatore Triestino	-	-	-12	——— Moysfche	-
Mercurio Italiano di Vienna	-	-	-9	Bafiler	-
				Bayreuther	-
FRENCH.					
Courier du bas Rhin	-	-	-20	Berliner	-
——— de Londre	-	-	-46	* ——— Monathfchrift	-
Gazette d'Amsterdam	-	-	-20	* Braunfweiger neues Journal	-
——— de Bruxelles	-	-	-20	Brünner	-
——— de Deux-ponts	-	-	-22	Passauer, oder Kourier an der Donau	8
——— de Cologne	-	-	-20	Pefter	-
* ——— de France	-	-	-16	Peterfburger deutsche	-
——— de Leyde originale	-	-	-18	——— ruffifche	-
* ——— nationale, ou le Moniteur	50			Prager deutsche	-
* ——— univerfelle, ou Papiers nou-				——— böhmifche Kramer	-
velles, de tous les pays et de				Prefsburger	-
tous les jours	-	-	-30	Kemptner neueste Weltbegebenheiten	-
——— de Varfovie politique et				Köllner deutsche	-
litteraire	-	-	-40	* Kanstädter ökonomifches Wochen-	-
* Nouvelles Eccléfiastiques d'Utrecht	12			blatt	-
				Konftanzer	-
JOURNALS.					
* Efprit des Journaux	-	-	-20	* Drunter und Drüber, oder wie ge-	-
* Journal de Paris, qui paroît tous				het es in der Welt zu ?	-
les jours	-	-	-26	Erlanger	-
				Frankfurter Ober-Postamtszeitung	-
				——— Rifretto	-
				* Göttinger gelehrte	-
				Gratzer Bauernzeitung	-
					Gratzer

VIENNA.

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	Yearly.	fl.	cr.
Gratzer Leikamische	-	10	
— Merkur	-	10	
— Damenzeitung	-	5	
— Bürgerzeitung	-	8	
— Zeitung für Studenten	-	4	30
Hamburger Korrespondent	-	14	
— neue	-	14	
— Journal	-	10	
Hanauer	-	12	
Hermannstädter	-	8	
Journal der neuen Staatsverfassung von Frankreich	-	22	
* Journal des Luxus und der Moden	-	12	
* Jenaer Litteraturzeitung	-	14	
Leipziger politische Zeitung	-	14	
Ministerialzeitung	-	10	
Münchner	-	10	
* Merkur, deutscher	-	10	
Neuwiedner Original	-	12	
— Nachdruck	-	9	
Ofner deutsche	-	12	
Ofner lateinische	-	12	
Regensburger Staatsrelazion	-	10	
— historische Nachrichten	-	12	
* — Staatslitteratur	-	8	
* Salzburger Staatszeitung	-	10	
* — Litteratur	-	14	
— Intelligenzblatt	-	5	
* — Medicinisch-chirurg. Monatsschrift	-	12	

	Yearly.	fl.	cr.
Schafhaufner	-	12	
Schwäbischer Merkur	-	10	
* Stokholmer	-	24	
Schubarts Kronik	-	10	
Warschauer pohlische, Naradowa genannt	-	32	
Warschauer Diarium	-	24	
VIENNA NEWSPAPERS.			
Wiener Hofzeitung oder Diarium	-	16	
Die Bürgerkronik, vormals Wienerbothe genannt	-	12	
* Wienerzeitung v. Hofmann	-	7	
Auszug aller europäischen Zeitungen	-	14	
* Oekonomische Monatsschrift	-	3	
* Wiener Haus- und Landwirthschaftszeitung	-	4	
Leidner Nachdruck für Wien	-	9	40
— in die Länder	-	13	
Wienerblättchen	-	12	
Illuminirtes Journal	-	15	
Schwarzes ditto	-	13	
Magyar Kurir	-	11	
— Hirmondó	-	10	
Griechische Zeitung	-	14	
Illyrische	-	14	
Komödien mit Kupfern, 8 volumes yearly	-	5	30
Komödien ohne Kupfern	-	4	30
Journal der Erblanden	-	6	

CHAP.

C H A P. I.

FROM VIENNA TO CEDINBURGH—COAL MINE—COUNT SE-
CHYNY—PRINCE ESTERHAZY—TRAVELLING IN HUNGARY—
COUNT FESTITICH—TOWNS OF RAAB—DOTIS—KOMORN.

TAUGHT by experience how much we are obliged to leave undone for want of time, not only in the common concerns of life, but likewise in tours of the nature of the one I was going to set out upon, I impatiently waited at Vienna for fine weather; and only in fine weather could it be prudent to travel in a country which, according to the accounts current at Vienna, was little better than in a state of nature, and its inhabitants half savage; and the weather had hitherto, ever since the breaking of the frost, been cold and gloomy. Indeed so savage was the character of this people drawn by some, that many less accustomed to travel than myself, would have given up their intended tour altogether; and I myself, had I not learned to make deductions from popular accounts, would hardly have ventured without a battalion of grenadiers for protection. If I came back alive I was told I ought to think myself fortunate.

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On making the acquaintance however of some Hungarians, who furnished me with letters of introduction, I found these accounts to arise from national hatred; and on the 5th of May, though the weather for the climate and season of the year was not fine, I set out on my tour, accompanied by a servant, who had lived several years in Hungary, and spoke the different languages in use there; the Hungarian, German, Wallachian, and different dialects of the Sclavonian. Having sent my portmanteau before me to Oedinburgh, by the diligence, I set off on foot, that I might view the country at my ease, and pick up any thing I might meet with, either fossils, plants, or insects; for hitherto I had hardly made a single excursion about the capital.

The country through which I passed was pleasant. I had often a view of the Danube on my left, and at no great distance on the right rose a ridge of hills, running nearly north and south, gaining in height towards the north, at the foot of which were many villages scattered about; but I did not see here either the little snug box of the retired tradesman, or the more elegant seat or villa of those of the superior ranks of life. Some mountains that lay at the back were covered with snow. Here is the Schneeberg, so rich in Alpine plants.

The cold weather seemed to have retarded vegetation: the summer crops had only broke through the soil, but the winter crops were near half a yard high, and promised to repay the labourer's toil. Where

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the plough was at work, one without a coulter was used; the foil was light, and the beds flat and large. The *Hyacinthus botryoides* grew on the banks by the road side, with the *Ranunculus polyanthemus* in plenty; but the *Ranunculus aquatilis* had not yet ventured to blow. The Horse Chestnut was likewise in blossom. I heard the mowing of the *Rana bombina*, and saw a few of the *Rana variabilis*; they are both very common about Vienna. Many of the *Sterna nigra*? were skimming over the fens which I passed towards the evening. I saw two or three of the great Tern, *Sterna Hirundo*; and Hooded Crows, *Corvus Cornix*; and Jackdaws, *Montedula*, in abundance.

As I did not set out till the afternoon, I only reached a village called Oberrechsdoerf; where, as I expected, I met with very bad fare. My attempts to persuade the landlord to put on clean sheets were all in vain: he said he could not always be putting on clean sheets. I took my revenge, and slept in my boots. In the morning I crossed the Leitha, and entered Hungary.

At Wimpaffing is the Hungarian Custom House. As an order had a short time before been published by the Austrian government prohibiting any Frenchman from residing in the distant provinces, or going indeed beyond a certain distance from the capital, I expected to have been examined; but I passed on unquestioned. The Austrian government was very careful to prevent French principles and opinions

from being disseminated in the provinces. In the capital the French emissaries were more easily watched; and there, to judge from the general indignation of all ranks (a few pseudo-philosophers excepted) on the news of the murder of Louis XVI. they had little hopes of success. On this atrocious act being made known, many of the French residing here, some probably of quite different principles, were ill treated; they hardly dared to shew themselves; some of the *traiteurs* and inn-keepers would not receive a Frenchman into their houses. The French language, so general here, was laid aside. These *expressions* of disapprobation were indeed only momentary, though the disapprobation still remained, and I hope ever will.

What a severe blow to liberty is the French Revolution! Where there can be no medium between the French licentiousness and the most despotic government of Europe, what upright and sensible man will hesitate to prefer the latter, and quietly wear his chains? What an example for tyrants to hold up in their own behalf to a justly revolting people!—Mayest thou, Gallia, alone suffer; and, unworthy of a moderate government, ever live in the turbulencies of democratic anarchy, or feel the imperiousness of despotic sway; whilst the rest of Europe peaceably live under their various governments, and quietly await the amelioration of their lot!

On entering Hungary the country becomes more uneven. It is well cultivated: it is chiefly corn land, and some pasture. Its gentle

elevations fit it for the vine, which is planted on the banks exposed to the sun. In the vineyards, the labourer seemed behind hand; few had driven in the stakes which were to support the vine under its autumnal load. The Laryx is used for this purpose, on account of its durability, for they are here left out all winter; but they are a less expensive article than our hop-poles. Amongst the vines there are a great many standard Peach-trees; these were in full blossom: they are more pleasing to the eye than their fruit is to the palate, which has very little flavour, and is sold under the name of Vine or Vineyard Peaches.

At the foot of a small ridge of hills, two or three miles to the left of the Oedinburgh road, lies Eisenstadt, where the present Prince Esterhazy mostly resides. Towards the evening I reached Oedinburgh. I met many cart-loads of fowls going to the Vienna market, and two or three numerous parties of pilgrims, composed of men, women and children, going to St. Maria of Zell in Styria. What indulgences they obtain by this I don't know; no dispensation, I hope, from observing the duties of morality: if only from penances and ceremonies, then it is merely an exchange of one trifle for another. But how great is the misfortune, if it gives a license to leave one kind and friendly act undone!

In some places the road was mended with *Gneiss*, and the compact primitive limestone; but what seemed to be most general, was a
kind

kind of Breccia, composed of fragments of fat quartz, accompanied sometimes by fragments of shells, cemented by the *Tophus communis*. This, I think, extends to a considerable distance, as I have seen some specimens from quarries, towards the Neusidle Lake, of the same kind, with entire scollop shells.

Edinburgh is old, and irregularly built; but, with its suburbs, contains several pretty good houses, as it serves for the winter residence of many of the neighbouring nobility. Its population is given at about 12,000, and it must carry on a considerable trade, as Mr. Korabinsky estimates its annual sale of horned cattle at 40,000 head, and 150,000 hogs. In 1781, he says there was 2300 hundred weight of honey sold; and the sale in 1782 of its own wine, which is chiefly sent into Silesia, amounted to 28,000*l*. sterling. The celebrity of this wine, which, according to my taste, is but indifferent, led to a singular mistake. In travelling through Bohemia, I saw, in a list which was hung out at a wine cellar of the wines which were on sale, Edinburg as the place of growth of one of them: this surprised me much; for though I knew that Scotland was noted for its *cakes*, I had never yet heard of its wine. I therefore conjectured it was whisky; but to prevent an error, I got off my horse, and enquired, and I then learnt it was an Hungarian wine. In this manner the name of this city is sometimes written, but more commonly Oedenburgh, and then the etymology is from the German language, and it signifies the solitary, waste or desert town,

town, which name was given it many centuries ago, after it had been destroyed by the army of some foreign prince.

A letter of introduction procured me the acquaintance of Count Szecheny, who received me in a very kind and polite manner. In his family I had an opportunity of observing what good linguists the Hungarian nobility are. His son, a beautiful boy about 10 years old, spoke pretty correctly and fluently the Hungarian, German, Latin, French, and Italian languages, and, I believe, in some degree, the Croatian. After dining with the Count, I accompanied him to Zinkendorf, which is one of his estates, about three or four miles from the town, to see something of Hungarian economy and rural life. The estate is very considerable, but the house much out of repair: he shewed me a large collection of books and maps, and a very valuable collection of Hungarian coins. Though he had left his countess and children in town, and there were no strangers but myself; yet, when we came to sit down to supper, which was in *en famille*, we were a pretty large party; these were the gentlemen of his household. Each had his respective title; one who seemed to have the *pas*, was, I believe, his Lawyer; the others were Secretaries, Stewards, &c.

The next day, soon after breakfast, we took a ride to see the palace of the Prince Esterhazy, the richest nobleman in Hungary. As the Prince now generally resides at Eisenstadt, this seat is not kept in the best order; but nothing could make it an agreeable residence,

sidence, being situated in a flat, near the most fenny part of the Neufidle-Lake. The palace is large, and well fitted up; but most of the furniture has been taken to Eifenstadt, to the great mortification of the house steward, who complained in a melancholy tone, particularly on shewing us the china, that *he* should soon have nothing left, nothing to look after!—These were the complaints of a faithful servant: for no doubt he was as well paid as if the whole had been there. He was an old soldier: whether he had gained laurels, I don't know; but he had received wounds. I was shewn a long room, under the name of a picture gallery; its contents were unusually bad.

Behind the house is a wood, prettily laid out, with some very neat Chinese summer-houses. The theatre is small, but very elegant. The late Prince was very fond of dramatic performances, and kept a troop of players; but the present keeps none. His passion is shooting; to his neighbours the most inconvenient one he could have, and which procures him the ill will of many of the neighbouring nobility. In Hungary every nobleman has a right to shoot on the estate of another, without his leave; but every one may set apart a certain portion of his lands, entirely for his own use, where it is then illegal to sport. He stands accused of appropriating to his own private use a more than ordinary quantity of his domains. The revenues of this Prince are very great: they are generally estimated at eighty or ninety thousand pounds sterling; but
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in 1793, which was an extraordinary profitable year, they amounted to 1,070,573 florins, that is, about 167,057 pounds sterling. This account I had from good authority; and his *Regie*, or all the expences for his Stewards (*Beamte*), Servants, &c. in his thirty-three estates, were 36,745 pounds. From thence we returned, and dined at the house of one of the Count's Stewards; and from thence, by the side of the Lake, through Wolfe, where there is a cold hepatic water, which is heated and used for bathing, to Oedinburgh. By the side of the lake, I was shewn some of the cellars in which the Oedinburgh wine is kept; they are dug deep into the sides of the hills on which the vines grow.

Five or six miles south-west of the town there is a coal mine amongst the hills; the coal appeared to me very good. Twelve men are employed, but it has been worked only a few years; a hundred weight costs five pence at the mine. A coal mine so near a great populous city like Vienna, ought to be considered as a treasure; but here, as over the whole Continent, there exists such a strong prejudice against the use of it (for to it our consumptions, melancholy dispositions, and *felo de ses*, are generally attributed), that it is only used in a few manufactories. It is accompanied by a soft sand stone and clay, but all the neighbouring rocks that I could examine are of decomposed *micaceous schistus*.

Oedinburgh possessing nothing worthy of notice, I began to make
 2 enquiry

enquiry about the means of continuing my journey to Raab, the next town I intended visiting in my way to Buda; and was a good deal surprised and mortified on hearing that there was neither private nor public means of conveyance, this not being a post road.

But the Count soon extricated me from this difficulty by procuring me a *forespan*. This is an order from the magistrates, to the judges of the peasants, to supply the person who obtains it, with horses to transport him to the next station, which is generally from fifteen to twenty English miles, for which 15 creutzers, that is, about sixpence, is paid for each horse. Sometimes you are allowed to travel with only two horses; but in general you must have four: which is still very cheap, being only two shillings for fifteen or twenty miles. It is a favour, and should be only granted to the military, and to those travelling in the service of the public; but in the more distant parts of Hungary it is the most common way of travelling, and, except in particular seasons of the year, is no very great hardship, as it is treble the price of a day's labour of a peasant and a pair of horses, as fixed in the *Urbarium*, which is 20 creutzers, that is about eight pence; and if he brings, as he generally does, four horses, to make the work lighter to them, his day's work is still valued at only 20 creutzers.

I took leave of my friend Szecheny, who, after having filled several high offices, as locumtenens to the Ban. of Croatia, and Ambassador from the states of the kingdom of Hungary to the king of Naples,

on the occasion of his visiting Hungary, by whom he was created a knight of the order of St. Janaro, has retired from the career of public honours, to cultivate his estate, and pass his time in literary amusements. He has visited our island, and entertains a very favourable opinion of us.

In the morning my carriage arrived; a peasant's four-wheeled hay-cart, and a pair of little lean horses. This is not so despicable a conveyance as the English reader will imagine. In Hungary you often see decent-dressed people travelling in this manner; and to me, who had travelled in Sweden, Denmark, and the North of Germany, where open carriages nearly similar, but neater, are in common use, it was no new thing. But had it been in England, the most common opinion would have been, that I was an evil-doer, conveying to gaol, and that my servant, who held my gun, and wore my cutlafs, was the gaoler. After travelling three or four hours a jog trot, I arrived at the village where I was to change horses. As in these places there are no inns, it is the custom to drive up to the Judge's house, and shew him the *forespan* order; and he is then obliged to go himself, or to send his deputy, to the peasant whose turn it is to serve. If he happens to live at a distance, and the horses to be at grass, you are often detained an hour or two, and even more, before you can get them; for the horses are never kept in readiness, without previous notice, as they are in Sweden, where there are no other post-horses than those of the peasants.

The

The Judges are only common peasants, and have authority only over the other peasants, and are therefore called *Judices plebei*. They are sometimes appointed by the lord of the village ; sometimes elected by the peasants themselves ; and sometimes the joint election of the peasants and their lord : these are local differences established by custom. They have no fixed salary, but get a few fees, and they are very thankful for two-pence or three-pence, as a dram, which is generally given them by the traveller, if they have been expeditious in procuring him horses ; and so little are they respected, that they run a risk of being thrashed, particularly by the military, if they do not exert themselves. They are easily known, by having a stick in their hand ; the most common, the most expressive, and the most useful ensign of power amongst a rude people.

The next station, where I changed horses, was Michlos, a large well-built village. As this was a holiday, I got a tolerably good dinner at the public house ; after which, as my horses were not come, I took a walk about the village. The peasants were dressed in their best. I know of no dress more becoming for a man than the Hungarian—long breeches, short jackets turned up with fur, and short boots, with spurs. But this is not the dress of the common peasants : these generally wear grey linen trousers, with boots, or else a kind of sandals ; a short shirt, covering the upper part of the body only ; and a wide coat, made out of sheep-skins, which is thrown loose over the shoulders. The dress of the women is much like that of

the Germans, and no ways becoming. Whilst waiting for my horses, I was amused by a new pastime.

The amusements of the fashionable world are easily introduced from foreign countries, and, by the caprice of those who set the *ton*, laid aside again : but the pastimes of the people continue unaltered for ages ; and often, like the dress they wear, or the implements of husbandry they use, serve to shew their origin ; and on this account they merit notice.

Thirty or forty mostly grown up girls were drawn up in two lines, opposite to one another, and twelve or fifteen yards distant. The girls of each party held one another by the hand, and in this manner swung their arms to a slow-timed song : from time to time they changed places, the girls of one party going under the arms of the others, who gave them a hearty thump on the back as they passed under. The songs were questions and answers, concerning things in which country people are interested. One party, for example, asked the other what they wished for above all things, and what would make them happy ? They answered : A pleasant garden well stocked with fruit, a good farm well stocked with cattle, and a young and faithful husband. All these girls, I thought, though I had taken my usual portion of wine, which, giving warmth to the cold, like youth makes one less severe in criticising female beauty, had few personal charms ; and their dress was not becoming. The
hair

hair on the sides was plaited tight, and brought into the hair behind, which was likewise plaited, and hung down behind, as with the Swiss girls. The neck was covered with a white handkerchief; and a variegated body and petticoat, with a white apron, formed the rest of their dress. The petticoat was short, to shew their yellow leather boots with low iron heels. The latter are of great use in dancing, like the spurs of the men, for making a noise.

After waiting near a couple of hours, my horses came, which conveyed me to Pogyoslo, where I again changed horses; but the evening came on before I could set out; and as soon as it grew dusk, I found my young driver to be a *bemerops*, when he should rather have been a *nyctalops*. He first fairly left the high road, and got into a field; to which I said nothing, thinking he was taking a short cut, till he ran against a garden hedge, and carried part of it away. And he was no sooner got upon the high road, than he drove off it again, and at last upon a bank: here he began crying, and groping about, as if it had been pitch dark. I had the misfortune of seeing too well; of seeing all his blunders. At last, I made my servant take the reins; and I arrived safe, about nine o'clock, at Egget, the seat of Count Ignatius Festitich, for whom I had a letter of introduction from Count Szecheny, who received me in the most polite and friendly manner.

The country through which I travelled this day was flat, with
corn

corn and pasture lands, and woods alternating. I was so pleased with my host, that I spent three days with him, to see something more of Hungarian œconomy. He, like many of his countrymen, let his whiskers grow under the reign of Joseph II. and was one of the boldest opposers of his despotic orders, some of which were very oppressive to the great landed proprietors. He resides chiefly on his estate, and passes his time in rural œconomy. His village is very neat; the peasants' houses are uniform, and kept in good repair, and form a very broad and long street. They are composed of mud walls, and thatched roofs, for which the *Arundo phragmites* is much used. But these mud walls are very warm and durable; and though conveying, in the very denomination, meanness and poverty, are very eligible for low-built houses, like those of peasants. They are composed of the same materials which nature has taught the Swallow to select for his nest, and out of which he forms his solid dwelling; which is a sandy kind of clay, and much used likewise by the Germans, in building their houses, under the name of *Leim*: straw is mixed amongst it. They are afterwards whitewashed.

Some of his peasants have very large flocks of sheep. His own flock, or a great part of it, to the number of eleven hundred, he has let out to one of them upon the following terms. For each sheep he receives annually one gulden and one gros, about two shillings and two-pence, and three hundred weight of butter from the whole; and two sheep or lambs weekly for his table. He gives the peasant

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the right of pasturage for them, who, at the end of the agreement, must return him the same number again.

The management of an estate, in a country where the *glebe adscriptio* exists, and where the rents of lands are paid in personal services and the produce of the soil, is very different from, and far more troublesome than, the management of one where the cultivators of the soil are free, and where money is the substitute for both. This is not the case here, and the management of an Hungarian estate is hardly less troublesome than the carrying on of a manufactory. For the former state renders a number of stewards, bailiffs, &c. necessary, and a great authority must by the laws be invested in the hands of the landholders over their peasants; from whence arise, and often not ill-grounded, complaints of the peasantry against the oppression and extortion of their lords; and the complaints of these, of the sloth, laziness, and dishonesty of the peasantry: yet this is the state in which I think almost every part of Europe has been in or is in at present—it is the infant state of society.

In a shooting party which we made on a lake on this estate, we shot, amongst other water-fowls, a Cinereous Tern, *Sterna cinerea*? which is a very common bird here. They skim over the lake like Swallows, in great plenty. I opened it, and found its stomach full of insects: some *Tipula*, and the *Donacia aquatica*, were still very distinguishable, with some fragments of the smaller Chafers. In the open grounds

grounds round this seat, I saw several Bustards, and collected some fine specimens of the *Bombix pavo*.

If the traveller has the consolation, in the trifling inconveniences which befall him, to think they will be of short duration, he has a no less poignant mortification in the reflection of being so soon obliged to part from his most worthy friends and agreeable acquaintance. I reluctantly left my hospitable friend Festitich, who lent me his chaise and four peasant's horses to convey me to Raab, where I arrived in about four hours; passing over a very sandy soil, so barren in some places as not to produce a single blade of grass.

Raab is a pretty large and well built town, containing twelve to thirteen thousand inhabitants, on the banks of the river of the same name. I found a pretty good inn and coffee-house here, but there is little to see. The cathedral church has lately been repaired, and ornamented in a modern style. I think it is in this church where one of the gates of the fortress is kept, which the Hungarians broke down when they drove the Turks out in 1547. A friend, who was my Ciceroni for this town, shewed me a monument erected on a singular occasion. "As the living body of the Lord," said he, "in a plate was carrying to the sick, it was, with its attendants, by accident overfet and trod in the dirt in this very place, by some people who were fighting to seize, or to set at liberty, an offender." To expiate this indignity, the Emperor Charles VI. caused this to be
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erected,

erected, and here the holy fragments to be preserved in an iron chest, which have most probably long since been eaten by weevils, or else have served as dung for *Mucors* and other cryptogamical plants.

It has this inscription upon it :

Pani Angelorum Incorruptibili, Carolus VI. Roman. Imp. Austriacus, Regni Apostolici Conservator & Vindex, Læsam Adorationis Causam, Corréctis Seductorum Audaciis, Perpetuæ Deprecationis Monumento, Ad Expiandam Offensæ Numinis Iram, Ex Avita Pietate, Restitui Jussit, An. Sal. M.D.CC.XXXI.

It was in this town where the great Eugene, in 1717, was presented in form with the hat and sword from the Pope, for having beaten the Turks at Belgrade.

A letter from Count Festitich made me acquainted with Count Esterhazy, of Galantha, an amiable *bon vivant*, with whom I dined, and who, the next day, sent his phaeton and four with me, to pay a visit to Count Vitzay, at his seat at Hedervar, who received me with the greatest politeness. After I had partaken of an elegant dinner, he shewed me what I came chiefly to see, a very valuable collection of medals, mostly collected by his father, but increased by himself: this, I believe, is the second best collection in Hungary. He has likewise cameos, a library, and an armoury containing many old instruments of death.

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I was much pleased to find him an admirer of the good taste of my country. He was laying out his grounds in the English style, for which they were very well adapted, and had called in the advice of a German, who had resided a good while in England with a view to learn the art of adjusting the scattered careless beauties of rural scenery. In his stables I found several English horses, and two English grooms, who drew my attention to a trifling disease, if it can be called one, to which the Hungarian horses were exclusively incident, a spontaneous bleeding from the back, sides, or neck, from whence only a few drops exude. I observed with pleasure some gipsies, or, as they are called here, *sygynters*, working in the gardens. Much pains was taken by Theresa to turn these useless members of society from their vagrant life; but with not much success: they still stroll about as tinkers and musicians.

I was kindly invited to spend a day or two; but I returned in the evening to Raab, and the next morning I set out for Dotis.

I had informed one of my friends of my intended departure, and he took charge of procuring me a chaise. On enquiring what agreement he had made, I was told the Count Esterhazy had lent me one; but before I had got half way, I learned that he had hired it for me and had paid for it. I stopped and dined at Bobolna, where the Emperor has a stud: I was shewn several very fine Holstein horses. In the evening I reached Dotis.

The

The view of this town with the plain in which it stands, and the hills which lie at its back, is very fine. The country through which I passed this day was flat, with corn and pasture lands. A great many of that beautiful little animal, the Earless Marmot, *Arctomys Citellus*, were playing in the short grass by the road side, and on the banks. They are not very shy, yet run to the mouth of their holes, on the appearance of danger, where they sit upon their hind legs, and look about, but suffer you to approach near enough to shoot them; which, if they did not do so much harm where there is corn, I should consider as a great barbarity: I only shot one. I saw at a distance several Bustards.

Ever since I left Oedinburgh, I had been travelling through a flat country, and had not once seen a solid rock. At Bobolna, in digging for the foundation of a building, the workmen had come to a rock; but it mouldered away on exposure to the air, so as to be of no use in building: it appeared to me to be Stone Marl.

I passed, at no great distance, the famous Mons Pannoniæ; and here is the no less famous Benedictine Cloister, which was founded by the first Christian King of Hungary, St. Stephen. It is said the monks have more wine than water, as these hills are covered with vines, and water they are obliged to procure in the neighbourhood.

This Cloister is the depository of several relics:—an ivory altar,
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from the Holy Land ; the wedding clothes of King Stephen ; his stool, in marble, which possesses many medicinal properties, &c. &c. But having seen enough relics in my tour in Italy, I did not go out of my way to see them.

I was persuaded by my friends to take Dotis in my way, principally to see the gardens of Count Esterhazy ; and they had provided me with letters for Counsellor Bezere day, who, though he enjoys a respectable office under government, has taken the management of this estate upon him, in the absence of the Count, who is now Imperial Ambassador to the Court of Naples.

The Counsellor not being at home, I called on the Professors of the *Piarist* Cloister, a kind of school, or college, for the education of youth ; and they were kind enough to be my Ciceronis ; some of them were Ex-Jesuits. This little place, which belongs to the Esterhazy family, is worth coming a few miles out of one's way to see, as the gardens of the Count are really very fine ; a great ornament of which, is an unusual profusion of copious springs, of which they have availed themselves, not to form little piddling Cupids and puking ducks, but lakes and canals overhung with weeping willows, and limpid murmuring streams, on whose banks one would willingly repose, when inclined to meditate, or to feast on the pleasures of imagination, or to pass some sweet moments with a tender female friend. For noise and chatter, the French gardens are best adapted.

I was shewn some curious Bastard Pheasants, which I was informed were the offspring of the illicit amours of a Turkey and a Pheasant. This seems not only too unnatural an amour, but too improbable a story, and the account was confused: probably they were the progeny of the Pheasant and Common Fowl.

The town is built upon a rock of variegated red marble, which is quarried, and sent to a considerable distance. At the quarry I had an opportunity of observing the upper bed to be full of petrifications, but not that which lies under it, and is used for marble. Near to it are rocks, which belong to the alluvial ones, and most probably owe their origin to the preceding: these are formed of a congeries of beautiful incrustated mofs, irregularly mixed with incrustated and conglutinated fresh-water univalve shells*, and Alabafter†. The incrustating, or, as it is commonly denominated, petrifying matter, is not the common coarse sediment-like matter, but it is fine grained, and compact, like the *Trauertino* of the Italians; and the vegetable matter of the mofs has wasted away; so that when this petrified mofs is transversely broken, it seems to be composed of fine hollow tubes, with lateral appendages.

* Tophus.

Ex testis immutatis Nefite lacustris & paucis fragmentis Quartzæ lactei, opes, Tophi incrustantis conglutinatis, constans.

† Inolithus filamentosus.

Ferrugineus subdiaphanus, textura undulato-crustosa, transverse & parallela fibrosa. Fractura festucaria, micans nitore ad lucem fugaci.

Fossil

Fossil bones are likewise found in this rock. My Ciceronis assured me, that an Elephant's tooth, eight to nine feet long, had been dug out some years ago.

Neither superfine cloths, nor Dresden china, are made here, nor could the skilful workman here learn how to bring his art to greater perfection; yet these branches, in a rude state, are very flourishing, and employ the greatest part of the inhabitants. An agent of the Emperor had lately contracted for a hundred thousand ells of coarse white woollen cloth, for soldiers' great coats: this is made out of the long coarse-woolled fleeces, which are like hair, of the *Ovis Streptyceros*, so common in Hungary. In spinning, the spinners sat down, and used their right foot, to which was fastened a small piece of board to lengthen it, instead of the left hand, when they wanted to lift the yarn off the point of the spindle.

In several small rooms, I found six or eight at work, men, women, and children: the ladies were *en negligé*, but not naked: the gentlemen, as it was hot weather, being less delicate, had stripped in buff to their trowsers: but upon three-pence a day, the common price of a day's labour, the desires do not rise to a great height—except those of eating and drinking. There is one or two fulling-mills in the town.

The potteries are not less an object of industry. I saw one pretty large

large manufactory of stone ware, but the most interesting are the small ones. Some of these have furnaces like those in use in other places, but the poorer construct very small ones in a more simple manner. These externally have the form of a bee-hive, are five or six feet high, and made of mud and clay with a door on one side: this is only the covering; at the bottom a large hole is dug in the soil, and two or three bars of iron are placed across at the bottom of it: this is the oven, and on these bars the pots are placed. The soil is dug away on one side lower than this, where a large lateral hole is made under and communicating with the oven: here is placed the fire. They make a great part of the coarse earthen ware of a black colour: it is a rough imitation of Mr. Wedgewood's beautiful manufacture. This is done by shutting up the oven before the wood or fuel is burnt out, so that the articles it contains remain for some time in an atmosphere of smoke, which is the only colouring matter used. Some of those who use the common reverberating furnaces, construct them in the ground, so that three of their sides are formed by the soil. Just beneath the walls of the Castle, there is a large lake, five or six miles in circumference, which is more profitable than lakes generally are. Every three or four years the water is let off, and the fish caught; and the year after, the bottom is sown with Indian corn, hemp, &c. Mr. Korabinsky says, that the fish caught at the last draining sold for seven hundred pounds, and some years before for two thousand pounds: *Relata refero.*

The.

The Castle, which is now in ruins, and of which now only some of its vaults are used as a prison, served often formerly for the residence of Mathias Corvinus, the favourite King of this nation, to whose golden days they look back with pleasure: "In his days," they say, "we were a great and formidable nation, now only a province of Austria."

Roman antiquities have often been found here. In the College Gardens there is a marble sarcophagus, which was found about twenty years ago, with this inscription:

D. M.

ÆTERNÆ. QUIETI. ET. PERPE
TUE. SECURITATI. AURELÆ
TERNÆ. CONIUGI. KARISSIMÆ,
QUÆ. VIXIT. ANNIS. XXX. ET. TIB. CL. MA
CEDONI. QUI. VIXIT. ANN. X. MENSES. III.
ET. CL. IUSTINÆ. QUÆ. VIXIT. ANN. III.
MENSES. VI. ET. CL. LIGURINÆ. QUÆ. VI
XIT. ANN. I. MENSES. VII. FILIS. EIUS. ET. VEP.
PAVENTINÆ. TIB. CL. VALENTINUS. VETE.
XCALEGIADÆ. CONIUGIS. ET.
FILIS. ET. SOCRO. KARISSIMIS.

F. C.

Mr. Kora-

Mr. Korabinsky mentions another dug up in 1746, with this inscription :

D.	M
VICTORIÆ. VERINÆ. CONIUGI. PIENTISSIMÆ. DOMU. FORO. HADRIANENS. PROVINCIA. GER MANIA. INFERIORI. VIXIT. ANN. XXX. ÆMI LIUS DECIMINUS. MEDICUS. ORDINARIUS. LEG. I. ADJ. MARITUS. BENE MERITÆ.	
Fac.	cur.

I staid here but little more than a day, and then, with the Counsellor's chaise and four horses, I travelled on to Komorn, a town on the banks of the Danube, containing about five thousand inhabitants. It is about two or three hours journey from Dotis. I passed the Danube upon what is called a flying bridge. This, where a real bridge, either from the great expence, or from other causes, cannot be built, is the best contrivance I know. It is only an improved kind of ferry-boat: a floor, or stage, with a rail round it, is built upon two narrow barges, which are at a little distance from each other: in a cross ^{void} ~~bar~~, supported by two short masts or posts, there is a groove, with a sliding pulley; to this is fastened the cable, which prevents it from being carried down with the stream; and the other end of the cable is fastened, higher up in the river,

to a row of boats, which are moored with anchors, but yet admit of a lateral movement:—it is then driven over by the stream.—They are large, and can carry over ten or fifteen carriages and a hundred passengers at a time.

The Fortress is famed for having never been taken. Joseph II. ordered it to be demolished, and the materials sold. It was strongly fortified by art, and has a very favourable situation. In 1783 it suffered a good deal by an earthquake. History records several which have happened in this part of Hungary, and one in 1763 did a deal of mischief. Mr. Groffinger, an Ex-Jesuit, author of the *Zoologia Hungarica*, a very remarkable work, for the close of the eighteenth century, lives in this town. In regard to the general plan of this work, and the knowledge it contains of the present state of this science, it is very similar to the Natural History of Pliny; but I question much whether it will procure to its author an equally long-lived fame.

Amongst other great men, as, the learned author just mentioned, King Ladislaus Posthumus, and the Archbishop Kolonitsch, Mr. Korabinsky says, this town has had the honour of giving birth to "Tobias Angerer, a turner, who resided thirty-six years in London, and had the good fortune to instruct the present reigning Sovereign in his art; and by his probity keep himself constantly in his favour."

It was not far from hence that Nature produced, in 1701, that remarkable phenomenon, the Twin Sisters who were united back to back. They lived till they were twenty-two years of age, and were carried about many parts of Europe, as a show: there is a long account of them in the Philosophical Transactions.

A bad inn, no acquaintance, and nothing to see, induced me to pass only half a day here. I hired a chaise and pair, set off about noon, baited half way, and in the evening reached Gran. The road was good, and by the side of the Danube. At Almas, which I passed through soon after leaving Komorn, there is a hot spring. I saw soon after another quarry of marble like that of Dotis. The rocks that overhang the road are stratified sandstone, and calcareous *tophus* or *travertine*.

As I was examining these rocks, a lad came merrily along with joy in his countenance, and from each hand something hung dangling by a string. These were two of the *Mus Citillus*: one was at the last gasp; the other, from having a thicker string about its neck, had not suffered much: this I bought for a trifle, and took into my chaise.

I have often observed in Hungary, and particularly hereabouts, that the young pigs are striped on the sides: this is common to the young of wild ones, but I never saw it in the young of our domesticated ones.

C H A P. III.

GRAN, ITS HOT SPRINGS, FROGS, EPSOM WATER—NATURE OF
THE ROCKS—VISSEGRADE—BOGDON—ST. ANDREE.

May 19. **T**O find an Englishman and the brother of an English Peer, married and settled at Gran, how I was surprised ! Major Dormer brother of Lord Dormer I found here, and here apparently fixed for life. He received me in a very friendly manner, seemed glad to see one of his countrymen, and was so obliging as to be my Ciceroni for Gran. The first thing I looked at was the old ruined fortrefs built on a compact stratified limestone rock, on the banks of the Danube. From hence there is a very extensive view, and in return it forms with the neighbouring hills a fine *point de vue*, as you come from Komorn. The town is favoured with a fine spring of tepid water, of more use, I believe, to the Frogs than to its other inhabitants. My Ciceroni assured me, that this animal is not torpid here during the winter, but is then seen in numbers in the pond in the town, which receives its water from this spring. Busbeck, who was here in 1554, observed the same thing; for he says, “ Je sçavois déjà que ce défaut étoit

étoit commun à tous les Turcs: aussi en fui-je bien moins surpris que je ne l'avois été d'entendre croasser des grenouilles pendant toute la route de Commaronium à Grand, d'autant mieux que nous étions pour lors dans le mois de Décembre, & que le tems étant très froids, ceci me parût un phénomène. J'en demandais la cause à quelques gens du pays, qui me dirent que l'eau de ces marais malgré la rigueur de la saison étoit toujours tiède à cause de la quantité de soufre qui étoit dans le limon." This is uncommon, but not surprising. For these three years I have kept a favourite Tree-Frog, *Rana arborea*; but she is as gay in winter as in summer, provided she has warmth and enough to eat. The German stoves, which keep the rooms warm all night, have been very favourable to her. In this, hybernation differs from sleep, that whereas the latter admits of little variation, and can never be laid aside, or through art receive a substitute, the former greatly varies, and may be supplied by warmth and food. The Alpine Marmot in some high vallies in Savoy hybernates, I am told, eight or ten months in the year. In other parts of the Alps it does not hybernate half that time; and when kept warm, and well fed, its annual sleep entirely foreakes it, but not its diurnal. The same warmth that keeps alive the Frog, keeps alive the insects on which it feeds; which, in their turn, will find food from the vegetable world, the mediate or immediate support of every living being, kept in vegetation by the same cause.

Lately a spring of Epsom water has been discovered, and the proprietors

prietors have established a large manufactory of Magnesia, with not less than four or five boilers. It is in its infancy; but I do not doubt it would be a source of great wealth, were there as great a sale of it, as of sugar or salt: but this not being the case, I am much afraid the demand will not equal the quantity produced. The water exudes from a clayey soil. According to the analysis of Dr. Vinterl, Professor of Chemistry at Pest, 100 English cubic inches of it contain

- 700 grains of vitriolated Magnesia,
- 24 grains of aërated Magnesia,
- 14 grains of muriated Magnesia.

From a paper in the eighth number of the *Merkur von Ungarn*, it appears that vitriolated Magnesia has likewise been found here, in a dry state, in great abundance, as some miners, employed by the Archbishop, were able in a short time to collect above twenty hundred weight of it.

In the buildings, and likewise in the streets, I noticed a kind of *Breccia* like a volcanic *Tufa*; and being informed that the quarry was not far off, I took a walk in the afternoon to see it, for geognostic signs often throw great light upon a dubious Fossil. By mistaking the road, I could not find the quarry; but I found the hills in which this quarry must be, composed of nothing but fragments of different kinds of Porphyry. Many of these fragments would weigh a ton; and here, where the *Breccia* is very coarse, nothing

thing like stratification can be seen : but in the same hill, the *Breccia* is often as fine as a Sand-stone ; and it is then more or less stratified. This is an observation I have often made, and even in our Island, and it is exemplified in the hills about Edinburgh. The same may be observed in Sand-stone strata, where, if it becomes very coarse, like Pudding-Stone, it ceases more or less to be stratified.

The next morning I examined the hills which lie on the other side of the Danube. I found them similar to those of yesterday, but with stronger marks of stratification, being finer grained : this stratification is often found in the middle of the hill, supported and covered by the coarse unstratified *Breccia* : this is a strong indication, I think, of a formation under water. These hills, if I had had time to examine them with a view to Botany and Entomology, would, I think, have afforded me many things new or rare. Here it was, I believe, where I saw the *Polygala major* growing in great abundance. The *Turdus saxatilis* ? I likewise found here, and at the foot of these hills the *Cittillus*, and abundance of both the varieties of the *Lamia Morio* crawling on the ground. This animal is a striking example of the constancy of some varieties, if these be varieties, and exclusive of their colours they are perfectly alike. For though they are described as sometimes having the *elytra*, the first joint of the *antennæ*, and the legs, sometimes black and sometimes brown ; yet this is not promiscuous ; but the black *elytra* are always accom-

panied

panied by black legs and *antennæ*, and the brown *elytra* by brown legs, with the first joint of the *antennæ* likewise brown.

The inn here is very good, but the hospitality of my countryman did not permit me to make much use of it; yet I had rather have been without the comfort of his hospitable table, than have found here an Englishman, and one of his rank, settled for life. The thought of never returning to one's native country is a melancholy one: "*Let me return and be buried with my fathers,*" is, I think, an instinctive wish, which towards the decline of life, in the moments of reflection, must often arise, if prejudices against our country do not prevail.

Excluded from serving his country in a military line, by its laws, on account of his religion; he entered early in life into the Imperial service, and fought against the Prussians in the last war between these two powers. He has now retired from service with the rank of Major, and has married an Hungarian lady, by whom he has one or two children. At Vienna I saw a great many Irish in the pay of the Emperor, being likewise excluded from the British service on account of their religion.

When the dogmas of religion were often a sufficient cause of nations rising in arms against one another, of internal tumults, and rebellion; it was requisite that governments should know on whom they

they had to rely, and with justice could demand that the faith of those who offered themselves as their particular defenders should not make them their natural enemies. But a change for the better in the opinions of men, renders these laws now less necessary: and as nothing keeps alive resistance and dissatisfaction in the weaker party, so much as intolerance in the ruling; probably, if all distinctions of this nature were to cease, no inconvenience would arise, and greater unanimity might be expected as its natural consequence: but ruling principles of government are not to be hastily changed. The family of Dormer, as far as I recollect, has never interfered in the religious differences of their country. But in gratitude I ought not to speak against the test act; to it I am indebted for the roast beef and plum-pudding I eat at Gran: it is an ill wind that blows nobody any good.

Gran has between five and six thousand inhabitants. Its archbishop, as archbishop, is lord lieutenant of the county, primate and chancellor of Hungary, has a seat and vote in the royal council and septemviral court, and is legatus natus. He has the exclusive right of crowning the king, and can create nobility upon the archiepiscopal domains.

When the nobility are called to defend their country, he must bring a pair of colours into the field, and under each a thousand men. He is likewise prince of the German Empire. The archbi-

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shop,

shop, filling such high offices, is obliged to reside at Bude, and the chapter is at Tyrnau.

Ever since leaving Oedinburgh I had travelled over a flat country, where I could not expect to meet with any thing interesting in mineralogy; I had therefore travelled in a chaise. But the country becoming here more hilly, it promised to offer me occasions of mineralogical observation: I therefore sent my portmanteau on to Offen, by a carrier, and, putting a change of linen in my servant's knapsack, I set off for Vifsegrade on foot.

For the first four or five miles I walked at the foot of hills composed of the same kind of rock as those I have just described: and when on account of the road leaving the hills I could no longer examine them; from the loose fragments I found by the road-side, and from the rock, which now and then appeared above the soil, I had reason to believe they continued the same.

The presence of the moon, and the calmness and serenity of the air, made me almost regret that my evening's walk was not longer. About nine I reached Vifsegrade. As this was no post, or much frequented, road, I had no right to expect a good inn, but I got a room to myself; a comfortable thing in a thronged hedge ale-house. It was one that served for brew-house, lumber-room, and pantry; but alas a pantry *degarnie*! But if I had no victuals, I had music; it was
Whitmonday,

Whitmonday, and a party of strolling ziguiner musicians had fixed their quarters here for the night. Their instrument is the fiddle. I knew I could sleep in spite of it, I set it at defiance, and threw myself upon my bed. I hardly was there, when lo ! the bagpipe, the bagpipe itself, to my great surprise and vexation, began to make itself heard. Whether the divine musician who brought forth the thrilling sounds was descended from any of the noted highland pipers, I know not ; this I know, that a more frightful noise I never heard. I thought I should have had the megrim, but its monotony in some degree mitigated its *antisoporific* powers, and I slept ; and in the morning, when I intended to have enquired of him of what *school* he was, I found he was off.

This frightful instrument is common in many parts of Europe. In Sicily, when the shepherds about Christmas leave their hills, and come into the great towns, they bring their bagpipes, and then no language can express the ungrateful noise they make. Woe to those who are subject to the head-ach ! But *de gustibus non est disputandum*.

Fleas are as good as larum clocks ; they awake us as soon as the wants of nature are supplied, and then make us quit the bed of indolence. Through their incessant admonitions I was up with the sun ; and when I stepped out of my alehouse I was charmed with the beauty of the scenery which surrounded me. Before me flowed the rapid Danube, winding amongst hills covered with wood, variegated accord-

ing to their situation, with light and shade. By the side of this rapid river stands an old ruined tower, whose connected wall called my attention to the old castle, to which it is united, seated on the top of an immense perpendicular and craggy rock, which towards the bottom is covered with vineyards.

I was so pleased with this view, that after breakfasting, and not upon muffins and crumpits, I crossed the Danube, which is here very wide, to enjoy it to greater advantage from the opposite side, and from thence I sketched this drawing. Seen from hence, I hardly know a more beautiful landscape than what these ruins and rocks, with the addition of some hills covered with wood which now rise behind them, form.

I repassed the Danube, and by a road now unfrequented and blocked up with briers, but formerly often trod by royal feet, I ascended to the castle. Here I had a delightful view. I could see the Danube and its winding path amongst the hills to a great distance; and I could make this remark, that though this rock is likewise a Breccia, it has not been formed of the ruins of other hills more elevated, which having fallen down have given it existence; but it is of antient date.

I descended the side facing the river, but not without difficulty. It is evidently, though I think as high as Arthur's seat * at Edinburgh, entirely from top to bottom, composed of Breccia.

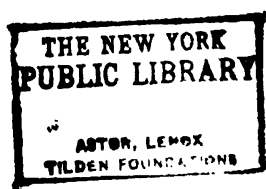
* About 800 feet from the king's park.

This



View of the Shrewsbury Castle of Wyke.

London, Published by G. & J. Robinson, Paternoster Row, July 1st 1796.



This castle, now in ruins, was once the Windsor of several kings of Hungary, and, though in ruins, still shews that it once was a princely dwelling. It is said by some old authors to have been so elegantly fitted up, as hardly to have had its like in Europe. Here the sovereigns of Poland, Bohemia, Moravia, and Bosnia, came together in the beginning of the fourteenth century and formed a treaty with Charles I. who entertained them in the most sumptuous manner. Bonfinius describing it says, "*Hi tanta rerum copia, & tantis apparatibus tractati, ut nemo e Bohemis Polonisque fuerit, qui vini & obsoniorum omnium abundantiam satis admirari posset.*" And Thuroczius adds, "*Omni enim die ad prandium regis Bohemorum ex magnificentia regis Hungariæ expendebantur duo mille & quingenti panes, & de cibis regalibus copiose; pabulum etiam equis per singulos dies viginti quinque garlettæ. Ad prandium vero regis Polonorum mille & quingenti panes, & de cibariis etiam abundanter. De vino autem expensæ sunt centum & octoginta tunellæ*". Louis his successor likewise resided here: and here Charles II. died of the wounds he received by the hand of an assassin. Likewise as prisoners it has had sovereigns within its walls; and the crown of Hungary, not less esteemed by the Hungarians than the ark of the Lord was by the Jews, by an act of Ladislaus II. has been kept here. It has had the crescent planted upon its walls, and in short has had a vicissitude of fortune: but now it suffers, to great minds the worst of all,——neglect; and is, alas! become the dwelling of only owls and bats.

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The village or town which lies at the bottom of the hill, is inhabited by Germans, and their houses are built as in Germany, and are accompanied by an orchard.

My servant here fell ill, and required rest; and as I was neither inclined to pass another night here, nor to lose my time, I left him to go down to Offen by the first barge; and I set off on foot, about one or two o'clock, for Bogdon, where I was informed I should find a tolerable inn. I soon came to a quarry of stone used for building; a kind of *Breccia*, of white fragments, very friable, but feeling harsh between the fingers; in which were a few spangles of black hexangular *mica*, mixed with a greenish grey-coloured clay*. From the harshness and the *mica*, I am led to think these white fragments to be something of the nature of *Pumex* partly decomposed. Likewise a kind of *Tufa*, a congeries of various coloured small fragments of a terreous nature, intimately united†. I followed the course of the river,

* *Breccia*.

Ex fragmentis minoribus albis asperis ungue rasilibus, interdum fere pulverulentis mica hexangulari nigra sparfis, fragmentis extraneis rarioribus Quartzi pinguis lactei, Marmoris vulgati et shifti? ope argillæ griseo-virescentis conglutinatis.

Tubo ferruminitorio argilla vitrum viride, & fragmenta alba vitrum albidum, sine intumescencia aut phosphorescentia præbent.

† *Breccia*.

Ex fragmentis parvis heterogeneis terreis ferrugineis rufis & lateritiis inter se intime coalitis, fragmentis Hornblendæ Basaltinæ & lamellis Micæ nigræ hexangularis insparfis.

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which

which still continued to run amongst pretty high hills. Those I could examine were like what I have already described, and all the way by the road side I saw fragments of the same. When arrived at my inn, I found nothing but coarse bread and very sour wine; and therefore I resolved, as it was not late, to try my fortune once more. But the Fates had decreed, and then all human efforts are fruitless—they had decreed that I should go without my supper! And so it happened: for in passing some vineyards I got out of the right road, amongst the hills, and thick woods, chiefly of Beech; and after losing a couple of hours, I was informed by a woodman I luckily met, that I must go back again, being quite out of my way. The hills I ascended were pretty high, and connected to those about Viffegrade, and composed of the *Saxum metalliferum*, or argillaceous Porphyry.

Being more hungry than tired, and seeing Watzen only two or three miles off, on the other side of the Danube, I set out again; and being told that a child might find the way, I took no guide. I soon lost my way again. I indeed reached the river, but could find no ferry boat; nor could I, with all my vociferous exertion, induce any one to come to my assistance. As it was growing dark apace, I made the best of my way back. Several birds of evil omen came hovering about me, particularly Owls and Goatfuckers; and on entering the village I was attacked by all the Dogs of the town, and obliged to draw my cutlafs in my defence. The foot passenger
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in the sheep-countries in Hungary runs considerable risk from the Sheep-dogs, which are very large and fierce. About ten I returned again to my sour wine and bad bread.

In these series of misfortunes I consoled myself with having met with one piece of good luck. In a field, *baud procul a pago Bogdon in vino aquoso acido & pane sicca brunnea abundante*, I found, for the first, and only time in my life, and then in great abundance, the *Lethrus Cephalotes*. They make holes in the ground, like the *Scarabæus sacer*, &c. Almost all I found had something green in their mouths: some had the *Alchemilla vulgaris*. On shewing them to a vine-dresser, he cursed them, and told me they did much mischief in the vineyards. Whether he took them for some more common *Scarabæus* I don't know; but 'at Vienna they are looked upon as a very rare insect, and as only found in the southernmost part of this kingdom. In Tombacher's catalogue they are valued at 40 creutzers, that is 16 or 17 pence.

My landlady took pity on my misfortunes, and, as she could give me nothing to eat, gave me a double portion—of feather-beds to cover myself with—It was a very warm night. It is a very great inconvenience in Hungary and Germany, that instead of sheets, blankets, and quilts, a light kind of feather-bed is used: this is always too short; and the same being used in summer as in winter, the traveller has no remedy, if he finds himself too hot, but to get on the outside of it, and so have no covering at all. It is likewise a
cause

cause of dirtiness, as the upper sheet is sown on to the under part of this feather-bed, or, what is more common, the feather-bed is put into a dark-coloured case, and then no upper sheet is used ; but this contrivance saves the chambermaids a deal of trouble.

In the morning I set off with much eagerness for St. Andrée, where I had reason to expect, from its being a considerable town, to meet, not indeed with hot rolls or muffins, but with the common breakfast of this country, good coffee and white bread. But, alas! I found only a most miserable public house, which afforded nothing but small-beer, eggs, and bread : so, had I reached this much desired St. Andrée last night, I should not have fared better. So far as concerns inns, this part of Hungary is much in the state it was in more than two centuries ago, when Busbeck travelled through Hungary : at Gran he was advised to eat heartily, as he would not get any thing afterwards to eat till he reached Bude.—Where torrents had laid bare the rock, I found the usual *Breccia* *. The hills here
separate ;

* It may interest some of my readers, as these *Breccia* rocks are of great extent, to have a more accurate and minute description of them. For their use I here subjoin an extract from my own Catalogue of Fossils.

No. 17. *Breccia*.

Fragmentum Porphyrii rufescentis crystallis Hornblendæ Basaltinæ & Feldspati cum lamellis micæ nigræ hexangularis, in lapillis Porphyrii ? conglutinatum.

L.

16 *Breccia*.

separate; those on the left of the Danube run towards the east, and those on the right keep more distant from this river. The sides of the

16 *Breccia.*

Ex fragmentis majoribus albis terreis asperis textura ad lentem subfibrosa, crystallis Hornblendæ Feldspati & lamellis micæ nigræ hexangularis, ope sabuli heterogænei terrei cinerii arcte conglutinatis.

Breccia.

Cineria tam simplex colore & consistentia ut pro Porphyrio fatiscente facile haberi possit, fragmentis Hornblendæ Basaltinæ inspersis.

Tubi ferruminitorii ope Scoriæ heterogeneam albidam & nigram præbet.

In this *Breccia*, and constituting a part of it, are small and large fragments of the following stones:

No. 18 *Porphyrius.*

Ex Iaspide solida hepatica, particulis Feldspati albidis et lamellis micæ nigræ hexangularis constans.

22 *Porphyrius.*

Ex Trapezio nigricante, particulis parvis Feldspati albi fatiscents copiosissimis constans.

20 *Porphyrius.*

Ex Petrofilice nigricante, particulis parvis Feldspati albidis & crystallis parvis Hornblendæ Basaltinæ constans.

19 *Porphyrius.*

Ex argilla indurata (Germanorum) dilute lateritia crystallis parvis Hornblendæ Basaltinæ & Adulariæ compositus.

13½ *Trapezium.*

Niger cultro rasilis rarius & subtilissime foraminosus, loculis materia terrea alba non effervescente forsan Argilla indutis.

Tubi ferruminitorii ope vitrum heterogeneum albidum & nigrum præbet.

2 *Trapezium.*

the hills were planted with vines, and the fields with Indian corn. At St. Andrée I took a chaise, and travelled on to Bude, where I arrived about two or three o'clock in the afternoon.

2. *Trapezus*.

Niger cultro rasilis foraminibus subtilissimis materia albo-cœrulescenti indutis, particulis nonnullis Adulariz, intuitu multum a precedente differt, indole parum.

7 *Trapezus*.

Idem indole. Externa facie scoriam adhuc magis emulatur.

C H A P. IV.

BUDE—ROYAL PALACE—CASERNS—HOSPITALS—UNIVERSITY
 —LIBRARY—THEATRES—COMBAT DES ANIMAUX—COFFEE-
 HOUSES—HOT BATHS—ANTIQUITIES—FAIR—KETCHKEMET
 HEATH—FIELD OF RÆKOSCH—SUPPOSED BASTILE, &c.

THE entrance into Bude is the most unfavourable that can be conceived. There are no fortifications nor even gates to this city; and you enter the metropolis of Hungary as you do one of its villages: and as the Jews have occupied the first part of the town, it is not necessary to say, that the first thing that strikes you is poverty and filthiness.

If in this direction the metropolis does not strike you with its beauty, it does with its extent. From the time I took in going to my inn, I think the town must be three or four miles long; but as it has the Danube on the left, and the fortress on the right, it is very narrow.

When we speak of our metropolis, we generally consider the three towns which compose it, as one: so here we may consider the
 cities

cities of Pest and Bude as one ; for they are only separated by the Danube, over which there is a bridge of boats, and then this city is very respectable in its extent and population ; Pest containing sixteen, and Bude or Offen twenty-two thousand inhabitants. The finest public and private buildings are in Pest, and within the fortress. The Royal Palace is a vast and stately pile of building. The Hospital for Invalids, now used I think as caserns, is fine and spacious, and the internal œconomy of it, good : it is calculated for four thousand men ; but on emergencies can receive double that number. The Governor was so obliging as to conduct me through it himself. I was greatly pleased to see with what mildness he treated his men, and they in return looked up to him as to their friend. He receives no *zeginers* (gipsies) into his regiment ; a most wise regulation. No doubt it was not the bad example which they might give, which alone induced him to exclude these vagabonds ; but he wished to keep alive, in his regiment, a principle of honour, by considering his men as above being associated with thieves and vagrants ; which is the common character of the *zeginers* ; they would then, he thought, be less inclined to act like them ; and, by entertaining a high opinion of themselves, require less the restraint of punishment. Nothing is so injudicious, and so injurious to the discipline of the army, as pressing into it the refuse of mankind. Likewise, to induce men to enter more readily into the service, and to make them bear their hardships more patiently, where such paltry pay is received, the soldier ought to be taught to consider his post to be a post of honour.

These

These soldiers seemed to live more comfortably than one would expect they could on two-pence-farthing a day (five creutzers), which is their pay; but they have a loaf of good rye bread, three pounds weight, every two days gratis. They in general mess together, and each gives daily a *gross*, which is something less than three-halfpence; this is only for their dinner, which takes place about ten or eleven o'clock. They had two or three good dishes. The Hospital belonging to this establishment is very good, and well managed.

For hospitals this town is badly off; that belonging to the University is good, but can admit very few; twelve or fifteen only; and that which belongs to the town, and is called the *Burgers Hospital*, is, I hope and really believe, the worst in Europe. Had I not seen it, I could not have believed such to have existed in this town. Every thing here, building, furniture, attendants, &c. &c. is miserable, stinking, and dirty. In a little shabby room, in which were eight beds, there was only one small window, and this shut, though the weather was hot. Seeing some flies on the face of a poor wretch, who appeared almost gone, I approached him; when one of the sick, thinking I doubted whether he was dead or asleep, said, "O, Sir, he is dead enough." Surely Joseph II. never was in this hospital, or he would have suppressed it as an insult to humanity. I believe there are in the town, as in most Catholic countries, some convents who undertake the painful but humane office of serving the sick.

The University has the rich foundation of twenty thousand pounds annual income *; four thousand of which is applied to pay the salaries of the Professors. Besides the usual chairs which exist in every university, there are those of natural history, botany, and oeconomy. The collection of instruments for natural philosophy, and the models of machines, are good; and the Museum of Natural History, which contains the collection of the late Professor Piller, besides that of the University, may be ranked amongst the fine collections of Europe.

The Library occupies a very fine extensive hall; it possesses too few modern books of science, yet seems useful, by being very accessible, which is not usual with most public libraries; yet I found it not much frequented.

The Botanical Garden is good, but has very little hot-housing.

The Observatory is in one of the towers of the Royal Palace.

There are two theatres. That in Bude, which was originally a church, and was applied by the Emperor Joseph to this purpose, is a very good one; that in Pest is small, and with wretched scenery and wretched decorations. The pieces are generally played in German,

* Korabinsky's Lexicon.

but

but within these few years some have been given in the Hungarian language.

On *Sundays* and great festivals, the public is entertained as at Vienna with the *Hetze*. The proprietors have two very fine Wild-Bulls. The day I was a spectator of this polite and humane amusement one was turned out on the arena, and at the same time an Hungarian Ox: this attacked the former, but was immediately thrown down: but our English Bulls would have disputed the ground with him to greater advantage: an Hungarian Ox, and a *Bos ferus*, are very unequally matched. Then came a *Raube Bear*; this is a Bear that has been kept without food for several days, and rendered savage by hunger: on another Bear being let out a battle ensued: the latter was so much inferior in size that the contest did not last long: the *Raube Bear* kept the other, which seemed no ways ferocious, down with his paws, and strangled him, by seizing him by the throat, and then carried him into his den. The great disparity in size and strength rendered this a most disagreeable fight. The White Greenland Bear afforded more entertainment. In the middle of the arena there was a small pool of water, with a Duck in it. As soon as the Bear came to the edge of the pool, the Duck laid itself flat and motionless on the surface of the water: the Bear leaped in, the Duck dived, and the Bear dived after it; but the Duck escaped, through its superior diving. The next piece was a bold attempt of one of the keepers to wrestle with an Ox. As soon as the keeper

came

came upon the arena, the Ox ran at him. The man, who was not above the middle size, seized his antagonist by the horns, who pushed him indeed from one side of the arena to the other, but could not toss him. After the battle had lasted some time, and the Ox had got the keeper near the side of the arena, and might have hurt him, some assistants came out, disengaged him from the wall, and gave him his dagger, which he immediately struck between the cervical vertebræ of his antagonist, which instantly fell lifeless to the ground; but small convulsive motions continued for a minute or two. In this manner the Oxen are killed by the butchers at Gibraltar, who, I am told, have learned it from their African neighbours. Might not the magistrates of towns recommend this method to their butchers, and, if found better than the usual manner of knocking them down, even compel them to adopt it? Every means of diminishing the sufferings of the brute creation should be recommended, not only from humanity towards them, but for the sake of our own society. Men accustomed to be cruel towards animals, will require but a small inducement to be so to their own species. A Lion came next upon the stage, and one with all his native majesty: conscious of his strength, he looked undauntedly about, to see if he had any opponent; but he was brought out only for show. From the hole in the upper part of the gate of the arena, a handkerchief was put out, and instantly drawn back: he flew at this in an instant. Some other animals were turned out, and were glad to get into their dens again. One of the keepers shewed his address in spearing a Wild Boar, which ran

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at him as soon as he came on the arena. I found few other public amusements. Being summer, most of the *grand monde* was out of town; for the Hungarians are like the English, they live a great deal upon their estates. In winter no doubt I should have found the usual amusements, as concerts, balls, card parties, *conversaciones*, &c. The *Citizens* have a ball sometimes on the Sunday evenings, and in the neighbourhood there are several inns pleasantly situated in retired situations, where the great and small often go for recreation. Coffee-houses are little known in the northern part of the continent; but in the southern they are places of resort, time-killing places at least, if not places of amusement. This town has several good ones; but that facing the bridge is, I think, not to be equalled in Europe. Besides a very large handsome room elegantly fitted up, and with two or three billiard-tables, there is a private billiard-room for those who do not smoke; and two or three other rooms for giving entertainments in; and very comfortable dinners may be had. And here, according to the continental custom, all ranks and both sexes may come; and hair-dressers in their powdered coats, and old market-women, come here and take their coffee or drink their *rosolio* as well as Counts and Barons.

The hot baths are the most remarkable things of Bude: the water springs up in several places in great abundance, in that narrow scrap of land which lies between the Danube and the hill on which the fortress stands. The Turks, who so often have had possession of the city, could

could not fail of applying it to their favourite pastime ; some of the baths, and the greatest, are Turkish remains. There are large common bath for the lower order of the people, and commodious private baths for those who can afford to pay for them. In a common baths I saw young men and maidens, old men and children, some in a state of nature, others with a fig-leaf covering, flouncing about like fish in spawning-time. But the observer must be just. I saw none of the *ladies* without a petticoat, though most were without their shifts. Some of the *gentlemen* were with drawers, some without ; according, no doubt, to their degree of delicacy, and as they thought themselves favoured by nature or not. But no very voluptuous ideas arise in these suffocating humid steams ; and as a further sedative, the surgeon is seen hard at work, cupping and scari-fying.

The first time I went into one of the private baths, I found the water so hot that I was glad to get out again : but this was my own fault ; it may be made of all temperatures. I examined one of the hottest, and in the common bath I found the thermometer stand at 30 degrees of Reaumur ; in a private one at 32 ; but at the spout, as it came from the source, it rose to 46.

Near to this bath is the pond of *hot* water full of fish. Warm water, hot water, water smoking hot, scalding hot, boiling hot, differ but in degree, which is a thing easily overlooked in a *lively* description.

scription. Yet what would be more surprising than to see fish swimming about in boiling water? In summer its warmth might pass unnoticed, and in winter might be denominated scalding. I found the thermometer immersed in it rise to $20\frac{1}{2}$ of Reaumur, whilst the atmosphere was only 15. But the difference in a severe winter, when the rapid Danube is frozen over, must be very great; and this happens sometimes, though the latitude of Bude is but about 47°. The army which called Matthew I. to the crown, when the states were undecided whom they should elect for their sovereign, the crown of Hungary being then elective, was encamped on the frozen Danube. This pond is very deep, and has a communication with the bath; it is commonly reported that the fish are not eatable, but this I believe is a mistake. I could see them, but not catch them; I think they belong to the genus *Cyprinus*.

As Alt Offen was a Roman station, under the name of *Sicambria*, it is very natural to suppose that many Roman antiquities have been found here. I was informed at Vienna that there was a building set apart for the reception of Pannonian antiquities. This is a mistake: they are shamefully scattered about the town. The gable end of the *Hoff Richters* house has the best collection: in the wall of this a great many inscriptions are stuck. Near the same place was discovered a few years ago a *Sudarium* in good preservation: it is about twelve yards long, and ten broad: the floor is supported by two hundred and forty-seven small pillars: Schoenwieffner has described it, and given a plate:

plate of it. Just without Alt Offen (Old Bude) there is a chain of ruins running near an English mile; they are drawn by Marfilli. If they are examined on that side furthest from the Danube, they will rather be taken for works of nature than of art: then nothing is seen but a stalagmitical body, or calcareous incrustation*; but on going to the other side which is broken down, it is plainly seen that this calcareous matter is only a crust covering a work of art. This crust in some places is a foot thick. These remains were solid columns formed of filled up arches, a manner of building common amongst the Romans. The most entire I saw was about three yards high, and nearly as thick. From their lineal direction, and particularly from the calcareous deposition, I cannot suppose that they are any thing but the remains of an aqueduct, where the water, charged with calcareous matter, by running down these columns, has formed this incrustation.

Near these ruins are, or soon will be, other ruins; ruins of a silk-mill. This machine, which is very large, was erected a few years ago, and went on for a year or two; but for these last eight or ten years it has not been worked, and will soon be rotten. The inactivity of the machine, as well as the inactivity of Hungarian industry, is attributed to the court of Vienna, which, the Hungarians think, wishes to keep them as a colony.

The *Pest* fair happened whilst I was here. It is the greatest in the

* *Tophus communis.*

kingdom, and lasts eight or ten days: many shop-keepers came from Vienna, and brought their merchandize with them. But the chief articles were the natural productions of Hungary, and the principal of these, Horses. These are driven to market in flocks like horned cattle, from the great *Puszta*s or commons: they are quite wild, and have never had a halter about their heads. When they come to market, they are driven into folds. In this manner they are shewn and sold. When a purchaser has bought one, it is not an easy matter to catch it, and take it away; for they do not suffer the near approach of their keepers, who are therefore obliged to catch them in this manner: A noose at the end of a long rope is put in a slit at the end of a long pole: this noose, by means of the pole, is endeavoured to be thrown over the Horse's head; but this is often impracticable: if so, then the noose is thrown on the ground, and they endeavour to catch it by the same means by the leg. From the great number of horses that are together, a good deal of time is often consumed in this first step. As soon as one is caught the greatest confusion takes place; and the spectators who are unaccustomed to this business cannot divest themselves of fear, in behalf of the keepers, from the great danger in which they appear to be in, who now endeavour to haul it a little aside to put a halter about its head, which it resists; then three or four stout fellows fly upon it and seize it by the ears, head, and neck: they can often then put on the halter; but the stronger and more spirited are obliged to be thrown down first. The leading it away gives
often

often no less trouble. For this purpose the buyer has at hand a strong steady horse, and these two are fastened together by the head, with a very short rope: he is even then often very troublesome. The whole business is dangerous both to the keeper and to the horses. The smaller kind of Horses, such as are in use amongst the peasants, sold for about four or five pounds; those for the army, from seven to twelve pounds.

Another staple article are Oxen. A pair of fat Oxen sold for nine to twelve pounds: not fattened, for eight or nine pounds. Wool, from the Hungarian breed of sheep (*Ovis strepsiceros*), from thirty-six to forty-four shillings per hundred weight of Vienna; which, I believe, is about an English hundred weight of 112 pounds. The wool of these sheep is often sold by the pair of fleeces, at about two shillings the pair. The wool of the common German breed was about double this price. That of the mixed breed of German and Spanish fetched from five to six pounds the 100lb.

Tobacco is likewise a staple article: that from Funfkirchen sold at ten shillings per 100lb. of Vienna: that of Szegedin at fourteen shillings; and the best, which is from Debrœ, at sixteen shillings.

Besides these staple articles, there were many cart-loads of hides and Knopperrn. These latter are a kind of Gall, which grows upon the calix of the Acorns of the Common Oak; and are used as a substitute:

tute for Galls, and for Oak Bark, in tanning. The quantity of common earthen-ware was surprising. A great many Jews, Greeks, and Armenians, who have most of the commerce of the kingdom in their hands, attended the fair.

The recruiting parties, which were not wanting here, any more than in our fairs, gave me an opportunity of seeing some Hungarian dances. They are very neat; but, being a kind of hornpipe, very fatiguing. The men wore the hussar dress, and looked well. The rowels of the spurs were very large, some of the size of an half-penny, but without points; and some had double rowels: these were for the sake of music, as throughout the dance a great deal of noise is made by striking the spurs against each other, and by slapping their hands upon their boots and breeches. They danced to the sound of the fiddle—So are men caught in Hungary!

The Turks having been in possession of Bude from 1541 to 1686, I expected to have found here some remnants of Turkish arts; either in buildings, manufactures, or handworks; but there are no remains of Turkish buildings, except the Baths, worth mentioning, nor any arts that I could hear of.

The common arts, here, as well as in the rest of Hungary, are chiefly in the hands of the Germans. On Corpus Christi day there was a great procession, principally of the different trades. The
Germans

Germans wore the common dress, and the Hungarians their national dress: the latter made by far the best appearance, partly through their more elegant dress, and partly by being finer men; but the former greatly exceeded the latter in numbers.

Arms and agriculture are the great occupations of the Hungarians, nobles and plebeians; and few of them carry on trades, or enter into commercial affairs; but the equipment of an hussar, and every Hungarian is an hussar in his dress, is the business of Hungarian workmen. A common taylor would as soon think of making a pair of buckskin breeches as a pair of Hungarian breeches; these are entirely different in their construction from those worn in other countries. The flap before is not held up by buttons, but it has a hem, through which a leather strap, which lies likewise in a hem in the waistband, runs through, and fastens with a buckle. The boots are likewise quite different in their construction; the seams are on the side, and not behind; and the front part of the foot, and the front part of the leg, are in one piece; and the heels of them are often only formed of a semicircle of iron. The spurs are not fastened on by straps, but are riveted on. Nor are their saddles less different; they have, besides a general difference in the construction, a long process behind, like the saddles of the Arabs, as described by Hasselquist. The sabre, and its accompanying pendent pouch, are likewise made by Hungarian workmen, and so I believe is the bonnet or cap; but this is not so commonly worn, and the cocked hat, except on

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gala

gala days, supplies its place. The Hungarian dress is very costly; the breeches are always ornamented with lace; so is often the waistcoat, and the jacket both with fur and lace. The plume of *Raiger* feathers for their caps often costs several guineas; and the silk and lace girdle or sash is not less expensive. In this dress the Hungarians walk about, and carry on the common concerns of life, which gives a gay look and military appearance to their towns; and when they meet in large bodies they make a very fine appearance. Those who are not noble, are not allowed to wear the hanger.

The great concerns of commerce are chiefly in the hands of the Greeks and Armenians.

This city acquired a great addition of wealthy inhabitants in 1784, by the government and the public offices being transferred hither from Presburg. It was on this occasion that the citizens gave such a striking specimen of mean and despicable egotism, and the Emperor Joseph of such greatness and public spirit. Through this new colony of opulent men in the public offices, the citizens found they could let their houses, and sell their wines and other produce, to greater advantage: they therefore requested of Joseph the permission to erect to him in gratitude a statue. But mark the answer of the *man*: "When prejudices," said he, "shall be eradicated; when true patriotism, and just ideas of the general good of the kingdom, shall be established; when each, in an equal proportion, shall

shall with readiness contribute his share to the wants of the state, its safety and prosperity; when true enlightening knowledge, improved studies, simplicity in the teaching of the clergy, and the union of true ideas of religion with the laws of society; a solid justice; riches through increased population and improved agriculture; acknowledgment of the true interest of the landlord towards his peasants, and of those towards their landlord; when industry, manufactures, and the demand of them, and general unanimity amongst the provinces of the monarchy shall be introduced, as I wish and hope; then I merit a statue: but not where the city, by my transferring thither the public offices, for a more easy inspection, obtains a greater consumption of its wines, and a higher rent of its houses."

I made two or three excursions amongst the hills at the back of Bude. The rocks that overhang the town belong chiefly to the alluvial (*aufgeschwemmte*). By the water street I observed indurated Marl, with fragments of *Pecten*; and the Blockberg, at least on the side facing the Danube, is of *Breccia* *, formed of small fragments of *Petroflex* cemented by indurated Marl. But the hills I examined further back, I found to be of a whitish scaly limestone †; at a

* Breccia.

Ex fragmentis minoribus Iaspidis & Petrofiliis rufi & nigricantis angulis integris & detritis, in massa calcarea heterogenea terrea albo-ferruginea inspersis.

† Marmor micans.

Marmor isabellina ad angulos diaphanum, textura subtilissime spatoso-squamosa, micans, tarde effervescens.

greater depth probably it might be fit to be used for Marble. I saw no signs of stratification, nor any petrifications. I observed likewise sand-stone in some places.

On the right hand, and a few hundred yards from the road which leads to the *Schöne Schaeferinn*, I found in a hollow a very fine white sand *, which, till I tried it with acids, I supposed to be a fine white siliceous sand; but it dissolves entirely in acids, with effervescence, though slowly. It is certainly calcareous, and I think it is formed by the decomposition of the scaly limestone. In some places there were small pieces, which did not fall into sand, till rubbed between the fingers.

I noticed few rare plants, but in one shady place I found the *Cypripedium Calceolus*, the *Digitalis ambigua*, and the *Melittis Melisso-phyllum*, growing together in great plenty. In insects I was pretty fortunate; but I do not recollect which I here added to my collection, except the *Curculio Cynarae*, which was in great abundance; and the *Curculio Bardanae*, *Lamia tristis*, and the *Papilio Mefnymone*. But I missed the limestone hills, containing such immense quantities

* As this cannot be classed under any genus of Fossils, of the Gmelinian edition of the *Syst. Nat.* of Linnæus, I have formed one to occupy the same place in the calcareous order, that *Arena* does in the siliceous.

Psammos pulverulenta.

Alba, granulis minutissimis opacis hebetibus.

of

of *Chamites*, *Turbinites*, and *Pectens*, mentioned by Mr. Born; yet in the streets of this city I saw plenty of a stone much used for building, with abundance of the casts and impressions of these shells, but no petrifications: and the evening before I took my leave of this city, I found under the chisel of the mason, a real volcanic *Tufa*, used likewise for building; the fragments of pumice-stone were very evident; it contained a few spangles of *mica*. The workmen said they brought it from a quarry six or eight miles to the N. E. of Pest.

From the hills at the back of Bude I had a fine view of the Ketchkemet Heath, which lies on the other side of the Danube, and forms a part of that immense plain which extends southward from the hills by Watzen, the Matra, Tokay, and those that run from thence into the county of Marmorus, to Belgrade; and eastward from Bude and the lake Balaton, to the hills which separate Hungary from Transylvania. When I looked to the east or to the south, not a hill could I see.

Mr. Born, speaking of this plain, says, "The earth is covered with the *Glarea Linnæi*, which is mixed with small broken shells. Here one may often travel for half a day, without meeting with a tree or a house, except the post-houses; yet this plain, 250 miles long, and equally broad*, feeds a great number of horned cattle."

* Fifty German or Hungarian.

Here:

Here are the great *puszta*s, or cattle-farms, single farm-houses, scattered about only for breeding and feeding of cattle; and it is principally from hence that the markets of Vienna, and far more distant ones, are supplied. Though this plain is in general dry and sandy, yet in some places it is marshy. This sandy soil begins as soon as you cross the Danube from Bude to Pest; and the inhabitants of this latter city are much annoyed by sand in windy weather. I took a ride to a small farm a few miles from hence: the soil was sandy, but black, and bore excellent crops of wheat. The Earless Marmot, *Arctomys Citillus*, was very common here. We caught several by pouring water into their holes, and catching them as they came out, in a bag.

The Field of Rákócsh, where the nation used often formerly to assemble, to elect their sovereigns, and hold their diets, is on this plain, only three or four miles from Pest. At some of these great assemblies, eighty thousand have here pitched their tents. Since the fatal battle of Mohatsh, in 1526, no such meetings have been held. Had Joseph II. contemplated this field, and considered the transactions which have passed upon it, it might have given him some useful hints in governing this spirited nation. It still brings to their recollection their ancient freedom; and they venerate it now, as an altar on which their hardy forefathers have often sworn to defend their rights.

And

And there is a building on the same side of the Danube, and on its banks, which they consider as a sign of departed liberty : it is differently named, and differently spoken of, as the generous glow for freedom, or chilling indifference, is felt, and as affection or dissatisfaction to the court of Vienna may predominate. Its most common appellation is Bastile ; an odious sound, and enough almost to damn a Work-house or a Bridewell : it was erected under the hated government of Joseph the reformer : inauspicious therefore to Hungarian liberty in its erection, and being built under a particular *direction*, it is still more so ; and then, what makes its destination less doubtful, the rooms in general are so small as not to be in the least adapted for an hospital, work-house, or for any thing of this kind ; so think the patriots here : it was never finished, and it was ordered by Leopold to be sold. Whether Joseph was apprehensive, that the innovations he was making in the rights of his Hungarian subjects, would bring on such discontents as might render a state prison necessary, or whether he built it only to intimidate them, or whether he had designed it for some quite different purpose, is not known ; but had he not with one stroke of his pen, on his death-bed, cancelled the labours of reform of nine or ten years, he might have filled it with *rebellious* subjects.

C H A P. IV.

NATIONAL DISLIKE TO THE AUSTRIANS—CONSTITUTION OF THE KINGDOM—STATE OF THE NOBLES, CITIZENS, AND PEASANTS—THE URBARIUM—STATE OF THE CLERGY—INNOVATIONS OF JOSEPH II.—ANTIEN ORDER RESTORED—TRANSACTIONS OF THE DIET OF 1790—AND STATE OF THE PROTESTANTS.

AT Vienna I learned that the Hungarians neither liked the Austrians, nor the Austrian government, and during my stay in Hungary, in every society I found a confirmation of it.

In antient animosities, handed down from father to son in opinions kept alive by vulgar proverbs and sayings, we may often find the cause of national hatred ; so to the frequent wars which were carried on between these two nations may be attributed some part of the mutual dislike now subsisting. But Hungary has been at war with its other neighbours, and yet with these, national animosities have ceased : we must therefore look further.

Hungary

Hungary has had its turbulent times, and its public misfortunes, like other nations, probably more than an equal share; and what history of a country is not so full of them, as almost to deter one from turning over the page of history, which is hardly more than a recital of disasters; where years, if years there have been of peace and public happiness, are passed over in a few words, whilst wars, famines, pestilences, and other great calamities which vex society, are detailed in forcible language? But that page of history fills the Hungarian with the deepest sorrow, which records that the crown of Hungary was worn by a prince from a foreign house, and that he kept his court out of Hungary.

This has now been the case for a long series of years. The crown from being elective has become hereditary in the house of Austria, whose court is at Vienna. The sovereign seldom visits his Hungarian dominions; the high office of Palatine was for many years vacant; no diet was called for twenty six-years, but the kingdom, like a province, was governed by royal mandates. Hence this nation considers itself as treated like an Austrian province, and not like a powerful kingdom; discontent and unwillingness to support the public burthens on their part arise, and dissatisfaction and indifference to their prosperity in the court, which in turn considers them as perverse subjects and useless to the state; and hence a general feebleness; and thus a country under a warm sun,
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with a fertile soil, and near eight millions of inhabitants, makes no more figure amongst the nations of Europe, than a province.

It is certainly an unfortunate circumstance for a privileged kingdom or province to be under the same government as those which are arbitrarily governed. Where even governments have nothing in view but the public good, so many hindrances in conducting public affairs are thrown in their way, through party spirit and unjust jealousies, by the leaders of the people; that often the best disposed rulers are inclined to act without enquiring the sense of the nation, and are anxious to get rid of the inconvenience of obtaining its consent; and the facility they find in governing those parts of the empire which they can arbitrarily govern, is always contrasting itself with the difficulties they find in governing the privileged.

Though some of the neighbouring parts of the Austrian monarchy have still their diets, yet they are for form sake alone, and in none of the important acts of legislation or taxation are they consulted. But Hungary has still retained the invaluable right of giving itself laws and imposing its own taxes, and it jealously watches the incroachments of the court. How then could the despotic government of Joseph II. fail to be to this nation a cause of great complaint, when it had almost alienated from him the allegiance of his other subjects accustomed to be arbitrarily governed?

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The whole government of this well-meaning Monarch was a continued series of alterations and innovations in the governments of those which had no privileges, and of infringements on the rights of those which had; where established principles of government, modes of taxation, and general police, were, by sovereign mandates, annulled, and replaced by others. I have seen a list of the ordinances published by Joseph II. from January 1781 to November 1783, that is, less than three years, and they amounted to two hundred and seventy-one.

It was the avowed intention of this Sovereign to form, out of his extensive hereditary dominions, peopled by twenty-five millions of inhabitants, governed by different laws, enjoying different privileges, speaking different languages, and in different degrees of civilization, one uniform government; where the same code of laws, the same mode and quantity of taxation, and even where the same language should prevail*; in which privileges should cease, and the burthens of the state be equally borne.

But before we enter into the detail of those innovations, which produced such dissatisfaction, let us take a view of the constitution of the kingdom, and observe the spirit of the people, for the spirit of a people is the only guardian of its constitution.

* His Belgic subjects may be excepted.

The Hungarians are a brave, generous, and hardy race of men. Voltaire, in his Eloge of Montesquieu, speaking of this nation, says, "Une nation fiere et généreuse, le fléau de ses tyrans et l'appui de ses souverains."

This spirit has preserved to them some of the most valuable rights of a people, and has kept hitherto the power of the Monarch from rising into arbitrary sway;—though this has varied here, as in other countries, as a weak and unfortunate, or as an ambitious and successful one has reigned. Not only when the crown was elective, as till 1682, in the reign of Leopold I., but even now that it is become hereditary, in the house of Austria, in gratitude for that Emperor's driving the Turks out of Hungary, it is the fundamental law of the land, that every new Sovereign, on ascending the throne, shall solemnly swear to the nation, to grant them their rights. These rights have been thought most sacred, and King Andrew II. in the thirteenth century, went so far as to promise, in his *diploma*, or coronation oath, to allow his subjects to take up arms against him, if he infringed them. Several of his successors have signed this *diploma*, and the same is still in use, except that this particular article, permitting the rebellion of the subjects, is protested against; but a coronation oath, of which such an article could be a part, must certainly be very favourable to the liberty of the nation.

The two greatest privileges of a people, those of legislation

and taxation, are still in their hands; and the Sovereign has only a *veto* in the legislation. The choice of the Palatine, a kind of viceroy, from four candidates presented by the Sovereign, and the reception of strangers as denizens, are privileges likewise belonging to the people. But the King has the unquestioned right of deciding on war and peace; he has a *veto* in the legislation; the gift of the great offices in the church and state, those of the Palatine, and keepers of the crown, excepted: it is he who creates nobility; and coining, and pardoning criminals, are his prerogatives.

Thus the executive government of the kingdom is in the hands of the Sovereign. On his ascent to the throne, in public parade, on horseback, he draws his sword, and strikes towards the four points, indicating that he takes upon him its defence against its enemies from every quarter. But the raising of supplies for carrying on of war belongs to the nation, who can only grant them in a Diet; and before standing armies were so general, when the defence of the kingdom depended on the nobility, it was here where they met, to consider of the number of troops that were to be brought into the field, being convened by the Sovereign for that purpose.

But what is the nation?—Who constitutes the people?—To whom do these valuable rights belong?—In this country, as in others, where society is in its childhood, the nation, alas! is only the great aristocratic body of nobles and clergy; and the productive part of the

the community, the citizens and peasants, have few or no rights, and no interference in public affairs; yet must submissively bear *all* the burthens of the state.

As the peasants were, till 1785, under the *glebæ adscriptio*, or in the state of villanage, they could never be considered as forming a part of the nation; and the deputies of the free towns being considered almost as intruders, it was, and still is, the aristocratic body which checks the power of the Crown; and it is this body that, according to the spirit of the Hungarian constitution, the Sovereign should consult with, upon all important state affairs, by calling them together in a Diet.

This Assembly is composed of magnates, archbishops and bishops, lord lieutenants of the counties, abbots, prelates, deputies of the chapters, deputies from the counties, and deputies from the royal free towns.

The magnates were originally only the great officers of the Crown, as the Palatine, the supreme judge, the lord marshal, the great cup-bearer, the steward of the household, the master of the horse, &c. but now the princes, counts, and barons are considered as such. Those who pretend to be acquainted with the true spirit of the constitution, regard the reception of the princes, counts, and barons, amongst the magnates, as an innovation. The eldest sons of this
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great nobility, with the two archbishops, diocesan and titular bishops, with the lord lieutenants of the counties, and keepers of the crown, constitute the first table, or upper house; and the lower house, or second table, is composed of the abbots and prelates, the deputies of the chapters, from each at least two; two or three deputies from each of the two-and-fifty counties into which this kingdom is divided, and a deputy from each of the royal free towns. If the free towns send more than one deputy, they have only one vote; it is so likewise with the deputies of the chapters; and if the members of the upper house cannot attend in person, their deputies sit in the lower house.

Though the Diet is thus composed of two tables, or houses, yet they form but one body, as their votes are taken together. It must always be recollected, that the deputies of the counties are only the deputies of the nobility. Even the towns are generally represented by the nobility; but this is their own fault.

The Diet, besides being convened upon all great national events, should meet at stated times. Under Matthias Corvinus and Ferdinand I. it was decreed they should be annual. Under Leopold I. it was decreed they should be triennial; and this was confirmed by Charles VI. and is still considered as the constitutional period. But sovereigns and their ministers often wish to get rid of these incumbrances, and lately, from 1764 to 1790, which is twenty-six years,

no.

no Diet was held, though many important affairs had happened within this period. It ought not to sit more than two months.

This interference of the *people* in all the weighty affairs of state, is justly considered by them as one of their greatest advantages; but the people here, or, as they are called in their public acts, which are in Latin, *populus*, are, as I have just said, only the great aristocratic body, the nobility and higher clergy. Their exemption from bearing any part of the public burthens they consider as another valuable privilege, of which they ought to be no less jealous. So that the whole taxes for defraying the expences of government must fall immediately upon the productive part of the community; the burghers and peasants.

The nobility, which is composed of titled and untitled, the former of which may be considered as the real nobility, and the latter only as gentlemen, have the exclusive privilege of enjoying all the posts of honour, and of filling all the public offices, and are *the exclusive owners of the soil*, except what lies within the precincts of the free towns; and a burgher or a peasant may as well think of possessing the throne, as of possessing one inch of land, without being first ennobled. Their persons likewise are privileged, except in a few cases, as high treason, murder, &c. They cannot be arrested, till they have been legally tried and convicted. And the simplest kind of knight service is the only duty they owe the state. When summoned

moned by their sovereign, they must defend their country. Their taking the field is called an *insurrectio*, and the high clergy are not exempt. This service, from the frequent wars in which Hungary was engaged, and principally against the Turks, was formerly a pretty severe obligation, for they served as a kind of barrier to the rest of Europe against this ferocious people. As long as the war continued within the limits of their country, they were obliged to maintain themselves; but when the war was carried on abroad, they were maintained by the sovereign. The number of combatants each brought into the field was proportioned to his estate. The archbishop of Gran and the bishop of Erlau brought each two stands of colours, and under each stand a thousand men; the archbishop of Collotza and several bishops a thousand each. In the fatal battle of Mohatch seven bishops were left on the field. But since standing armies have become general, little use has been made of this mode of defence, and no general *insurrection* has been summoned for a great length of time, so that the nobility at this day, except now and then by a *don gratuit*, contribute nothing to support the state. So far therefore as they consider only their own immediate advantages, they have reason to be jealous of their privileges; and these are assured them by the constitution: but an immunity to one part of the community, since government must be supported, is an imposition on the others; for since the nobility will bear no share of the expences of government, the heavier these fall on the burghers and peasants.

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The burghers being under the more particular care of the sovereign, and having their own magistrates, are pretty independent of the nobility, and have only to bear the burthens of government. But this is not the case of the peasants; theirs is a harder lot: for, living upon the estates of the nobility, they are under their immediate care and direction, and may be greatly molested and injured by their severity; though likewise assisted by their protection and generosity.

As this part of the community is so very important, by being the most numerous, and the most productive; and as its state generally shows the state of the nation in general, which in its progress in improvement has its different stages pretty constantly accompanied by particular disadvantages, I shall be rather diffuse on it; as by this it becomes a key to the knowledge of the state of the whole society. How unreasonable would it be to expect to find a country powerful and opulent through an improved agriculture, flourishing manufactures, and an extended commerce, whilst the peasantry are in the state of villanage!

It appears, however mortifying the thought, that the same hard state has been the lot of the peasantry almost throughout Europe, but at different times; and that it differs not so much in regard to the country, as the time in which it has prevailed. A Polish and an English peasant, how different now in the eighteenth century! Yet the peasants in our happy island *were* once much in the condition they *are* in now in Poland.

Poland. Under the Saxons, "there was," as Sir William Temple says, "a sort of people in our island in a condition of downright servitude, used and employed in the most servile works, and belonging, both they and their children and effects, to the lord of the soil, like the rest of the cattle or stock upon it." And upon their fate after the Norman conquest, it is further said, "that these villains belonging principally to lords of manors, were either annexed to the manor or land, or to the person of the lord, and transferable by deed from one owner to another. They could not leave their lord without his permission, but, if they ran away, or were purloined from him, might be claimed and recovered by action, like beasts or other chattels: they held indeed small portions of land by way of sustaining themselves and families; but it was at the mere will of the lord, who might dispossess them whenever he pleased; and it was upon villein service, that is, to carry out dung, to hedge and ditch the lord's demesnes, and any other the meanest offices; and these services were not only base, but uncertain both as to their time and quantity. A villain could acquire no property either in land or goods: but if he purchased either, the lord might enter upon them, oust the villain, and seize them to his own use; unless he contrived to dispose of them again before the lord had seized them, for the lord had then lost his opportunity." Such has formerly been the state of our peasantry. "There are not," says Cowel, "truly any villains now in England, though the law concerning them stands unrepealed." They have risen by progressive amelioration into copy-holders, and now bear but

a small part of the original burthens of this base tenure. "Tenants at will by copy of court roll," says Bacon, "being in truth bondmen at the beginning, but having obtained freedom of their persons, and gained a custom by use of occupying their lands, they are now called copy-holders, and are so privileged, that the lord cannot put them out, and all through custom*."

It is pleasing to consider, however slow the progress of society may be, that the state of this order of it is continually ameliorating: the interest of sovereigns, the interest of religion, the efforts of enlightened men, and even the more humane and enlarged views of the lords of soil, all tend to render the state of the peasantry less debased and oppressed.

The peasantry of Hungary are farther advanced than their northern neighbours, the Poles and Russians. That hardest of states, the being bound to the soil, yet removeable at the will of the proprietor of it, with undetermined labour and dues, is past; and it is some consolation to think, that often, before the law has fixed bounds to the rapacity of the landlords, by determining the dues of the peasant to his lord, custom in some degree has done it. So I believe custom had in some degree determined this in Hungary, before the Empress Theresa, in 1764, had made known her *Urbarium*; which, though pub-

* Bacon on the Use of the Law, p. 43.

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lished without the knowledge of the states, has been received as law. Nevertheless, Seventeen Hundred and Sixty-four must be considered as forming an epoch in the history of the amelioration of the state of the peasants, not only by more accurately fixing the reciprocal obligations of the lord and his peasants, but by shewing that the latter were thought worthy of the protection of government. This *Urbarium* I think too interesting not to be generally known; I therefore present the public with a translation of it.

THE URBARIUM; OR,

CONTRACT BETWEEN THE LANDLORD AND PEASANT, AS
FIXED BY LAW.

I. *Of the Quantity of Land.*

AS the dues from the peasant must be settled according to the nature of the farm, which is not everywhere the same, but various, in regard to the situation, and the quality of the land, as well as to its advantages and disadvantages; it is thought equitable in the village of A B that the house-ground for the cottage, yard, garden, and barn shall be equal to so much land as is usually sown with two Presburg measures*; and if it be more or less, allowance must be made for this difference in the other ground, unless this difference should not exceed a quarter of a measure, which then shall not be thought

* The Presburg measure is about as much as two English bushels.

worthy of notice. And for the farm grounds, of arable land, twenty-four acres, each acre (*jock*) being reckoned at two Presburg measures; and of meadow land, twelve days mowing, which must be mowed only once a year. In case the arable land is less, allowance must be made in the meadow land, and *vice versa*; a day's work of meadow land being considered as equivalent to an acre of arable: this is the land for a whole farm, and after the same rate, the half, quarter, or eighth of a farm.

II. *Of the Privileges of the Peasants.*

According to the 36th article of 1550, they are to enjoy the right of felling wine from Michaelmas to St. George's day.

If a peasant possesses a piece of ground that he or his father has cleared, and rendered capable of culture; this can neither be reckoned as part of the lately mentioned land, nor can it be taken from him, till he has been reimbursed the expences of clearing, which must be equitably determined by the county meeting; but should it have been cleared by another who may have left the farm, then he has no claim to it.

Where the situation and the extent of the estate permit, they are to be allowed sufficient pasture for their cattle, a part of which is to be marked out, but with the knowledge and consent of the landlord,

landlord, for their draught cattle; upon which he can let his own graze, but not those of another person. Where the pasture is already too small, the landlord must not render it less by turning any part of it into arable land, or by other means.

Where there are woods, the peasant is allowed to collect the wind-fall, dead wood, &c. for fuel; and where this fails, he may make use of other wood, but by no means of fruit-trees; and only just what is necessary for his family use.

Building timber is to be given gratis; but the trees must be marked out for him by the landlord; and where there is not sufficient wood upon an estate for the peasants, it must be procured for them from a neighbouring estate; yet only a reasonable quantity.

The acorns are to be allowed them at six creutzers (twopence-halfpenny) cheaper than to strangers; but in the *prædial* woods, as they can make a contract with the landlord.

When a village or farm is in possession of a wood, it can use it for fuel and building; and the Acorns and Knopporn (Galls) likewise gratis; but only for its own economy: but then it cannot demand fuel and timber from the landlord; and if its woods do not produce Acorns, it must pay as much as strangers; yet it is to have the preference; but the care of these woods belongs to the landlord:

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III. *Of the Labour or personal Service of the Peasants.*

Every occupier of a whole farm must perform one day's labour from sun-rise to sun-set, including the coming and returning, with four draught cattle every week, the cattle as well as the cart, plough, &c. being his own; this must not be divided into two half-days labour, except when the peasant from his own fault, or with a view to defraud his landlord, should keep less, and only bring with him a pair. To this one day's labour with a team may be substituted two days hand labour (that is, the peasant without his cattle).

If a difference arise between the peasant and his landlord, about the length of time to be allowed for coming and returning, it is to be determined at the county meeting.

Where the distance of the peasant's abode from the place where he is to work, is half a day's journey or more, the peasant being previously informed, that he may make the requisite preparation, may be detained four days together every month, the coming and returning being included; and in summer the landlord must provide pasture for the cattle, and in winter the necessary shelter. In the short days of the months of November, December, January, and February, when the distance is only an hour's journey, or at most an hour and a half, the peasant's coming and returning is not to be included; but he must be at his work from sun-rising to sun-setting.

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In the harvest time, hay-making season, and the vintage, the service with cart and team, or hand-labour, can be doubled; which is to be deducted afterwards, so that the quantity of the labour annually performed shall remain the same: but the cottagers (that is, those without land) cannot be compelled to perform this extra harvest work.

When the peasant, from living at a distance, must work four days together; double labour can be demanded, but in this manner: having performed his four days labour, he may return home, and work for himself alone, the next week; and then return and perform four more days labour. Yet more labour cannot be demanded in the summer months, than at most three fourths of the whole annual service; one fourth must remain to be performed in the six winter months.

When rain or other causes prevent the peasant, when come, from performing a day's work, and he returns, the time he has lost must be reckoned, but not a whole day's work.

Every occupier of a cottage without land must perform annually eighteen days hand-labour; but those who have neither house nor land, and only reside on the estate, twelve days hand-labour. But cottagers with a small piece of land, less than the eighth part of a *bouse ground*, must give the ninth of the produce in kind or its equivalent; but with respect to the other dues and services, he is to be considered as possessing no land.

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Although the peasant cannot be compelled to perform more labour than what is fixed by the laws of the land, and the present Urbarium; yet it is reasonable that, when he is willing to work for a stranger, he should in preference work for his landlord, on receiving the same advantages, or on making a free contract with him where the county meeting has not already fixed the price.

The landlord cannot demand money instead of labour; yet where both parties are inclined to substitute money instead of labour, either for a limited time, or for ever, it may be done, but in the presence of the county meeting: and when either of the parties is inclined to discontinue it, a year's previous notice or warning must be given, that the parties may adapt their œconomy thereto, and notice must likewise be given to the county court.

All contracts between the landlord and his peasants, as well with individuals as with whole villages, about services or other dues determined by this Urbarium, must be fixed in the presence of the county meeting; but when any rights or rents belonging to the landlord, which do not concern this Urbarium, are farmed out, this is not requisite.

Besides the already mentioned labour, four peasants must every year unite and provide a cart and four draught cattle, to perform a long journey, yet not more than a journey of two days distance, and not upon impassable roads, nor in the time of harvest, hay-making, or vintage.

vintage. This service cannot be compromised by money, nor can it be deferred till next year; and when by unexpected accidents it is extended beyond two days in going there, or when the cart is loaded back for the landlord, the loss of time in the first case, and the journey back in the second, must be deducted from the other labours; and all the expences of tolls or other imposts, as likewise the expences in the ians, are to be defrayed by the landlord; and in consideration that fuel and timber are allowed gratis to the peasants, every one of them possessing a cart and team must carry in a fathom of wood, which has been previously fallen and chopped up by two days of hand-labour.

But in lieu of this, the landlord can receive other labour, estimating the bringing in of a fathom of wood at one day's labour with a cart and team, and the falling and chopping it up, as one day's hand-labour from two peasants: but this can only be demanded in winter.

The peasant is obliged to carry to the place pointed out to him the ninths of his produce, as well as the *bergrecht*, (a due from the vineyards?) without being allowed to deduct it from the annual dues of labour; but every other case of carting, horses for travelling, letter-carrying, &c. which are not already mentioned in this Urbarium, must be deducted from the annual service; and he cannot be compelled, even for ready money, to perform other carting business, nor to transport any thing to market; but the landlord, if he wants his service,

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must

must agree with him as he can ; both parties being free, and no compulsion being allowed.

Where there are mischievous wild beasts, the peasants may be employed three days every year to destroy them ; but the landlord must supply them with powder and shot : other labour cannot be substituted to it, nor can money or produce be taken in lieu of it.

Although the peasant, in serving his landlord and in carrying on his own economy, and in going to the mill, is to pay no tolls on the road, in other affairs he must pay the usual tolls, or assist in the repair of the roads ; this to be at his option.

IV. *Of the Dues.*

Every person, without exception, occupying a house, is to pay an annual rent of two shillings (a *gulden*), in two separate payments, viz. at Michaelmas and at St. George ; but those who occupy no house are free from this tax.

Every one occupying a whole farm, must annually present his landlord with two chickens, two capons, twelve eggs, half a *maße* (about a pound) of *schmalz* (butter that has been melted) ; and thirty of them must unite together, and give one calf, or, in lieu of it, three shillings.

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Every peasant on the marriage of his landlord or landlady (but not on the marriage of their sons and daughters), and likewise on the induction of the clergy (the chapters and convents excepted), must give a moderate contribution of the lately mentioned articles of chickens, capons, &c. The occupiers of half farms, and less, to give in proportion. But the landlord may receive these presents in money, and then forty-eight creutzers (about twenty-pence) is to be the equivalent from the occupier of a whole farm.

If the landlord be taken prisoner in war, and it should be necessary to redeem his liberty with a sum of money, then, according to an old custom, and the thirty-ninth article of 1548, the peasants must contribute a suitable yet moderate aid; as likewise towards the expences of those prelates and magnates, who are by royal letters expressly called to the Diet: the county magistracy is to see that it exceed not a moderate sum.

For the liberty of distilling brandy, the peasant must annually pay two guldens (four shillings) for a still.

For the ground-rent of land that a peasant may intend to clear, the landlord and peasant may form an agreement; but of that already cleared the customary ground-rent shall be adhered to.

V. of

V. Of the Ninths of the Produce of the Soil, and of the Bergrecht.

A ninth part of all the fruits of the soil is due to the landlord in kind ; but not from the gardens of the house-grounds ; as likewise the ninths of the lambs, kids, and bees : an equivalent cannot be demanded in money, nor can these dues be extended to other articles not now mentioned. Where these lambs, &c. are less in number than nine, then the peasant must pay the landlord three-halfpence (four creutzers) for each lamb ; five farthings (three creutzers) for each kid ; and twopence-halfpenny for every bee-hive ; which, according to the ninety-sixth article of 1647, must not be delayed later than St. John's day, and the produce of the soil than St. Stephen's (except when bad weather may prevent) ; and when the backwardness of the season has prevented the harvests from taking place at the usual time, then the county meeting shall determine when the ninths and the tenths are to be taken away ; which if not done at the fixed time, the peasants may carry home their own, leaving the ninths on the field.

When a piece of ground has yielded its ninths, and being sown again produces another crop, no ninths or tenths can be demanded from this produce, any more than from an extra piece of arable ground, which is given to make up a deficit in the meadow land or house-ground.

The occupier of a whole farm must either give the ninths of his
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flax and hemp to his landlord, or spin six pounds for him; the landlord providing the raw materials.

Though the question of tenths does not belong to the regulation of this Urbarium; yet if, in some places, the tenths of articles not contained in the first article of the year 1481 should have been taken, this practice is to cease.

When the ninth of the vintage is taken, it is to be of the same quality as the whole of the gathering, and without any *over measure*; and in receiving the ninths, as well as the *bergrecht*, no other measure is to be used than the Presburg measure, of thirty-two *mafs*.

As the ninety-seventh article of 1715 clearly ordains that the *bergrecht* shall not be raised higher than the old custom; and as it is provided by several laws, that no other measure than that of Presburg should be used; so is it hereby ordered, that where this has not been observed, and new customs have been introduced, these illegal practices shall be suppressed, and the ancient custom be re-established. And where since that time, on planting new vineyards, the quantity of the *bergrecht* has been fixed by a written contract, or otherwise, this shall be reduced to the Presburg standard; but where since that time any new dues shall have been introduced, they are hereby declared unlawful, and are suppressed: and that in future these dues may not be increased, an account shall be taken, by order
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of the county court, of the vineyards in the hands of the peasants, and of the quantity of *bergrecht*, in Presburg measure, that is to be given: a copy of which account is to be given to the landlord, another to the peasant, and a third is to be kept by the county court.

And where no wine is made (that year), the peasant must give the usual *bergrecht*; but as this is to be taken in kind, and not in money, it must be taken from the produce of the following year.

VI. *Of the Rights and Privileges of the Landlord.*

The property of peasants dying without heirs, and of those who run away, devolves to the landlord: the peasants therefore must not take it; but give notice to the landlord, who must make good the debts and incumbrances upon it; but observing always the eighteenth article of 1723. But as this devolution cannot take place where there is a minor heir remaining, nor where it is part of a farm which has been divided, as it then falls to the possessor of the other share; to avoid injustice, these transactions shall not be determined by the officers of the landlord alone, but by the manor court; according to the instructions in Titul. 30, part 3, which shall be afterwards revised by the county court.

And when it happens, that, from the severity of the landlord, some of the farms become vacant, they shall be given to new peasants,

fants, or shared out amongst the other peasants already settled in the village, on the conditions fixed by this Urbarium. The same is to be observed with respect to all grounds which are already drawn under the conscription of the *Ports*, unless the fugitives shall return.

According to the eighteenth article of the fifth decree of King Uladislav, and the twenty-second article of 1729, the right of hunting, shooting, fishing, &c. belongs exclusively to the landlords. This is therefore strictly forbidden to the peasants.

Although, as it has been already stated, the peasants have the right of selling wine during a certain part of the year; yet when the landlord has, or shall establish, an inn for the accommodation of travellers, the innkeeper shall have the exclusive privilege of vending all sorts of liquors, and the making of them.

When the landlord, according to the thirty-sixth article of the year 1550, intrusts the selling of wine, &c. to a peasant, he shall, during this time, be exempt from other service; and the landlord must give him, as salary, four *denari* (about one penny) for every *seimer* he sells.

All rents arising from the weekly markets or fairs, or from the shambles and tolls, belong to the landlord; except where formerly they have been given up to the community by a particular grant.

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VII. *of*

VII. *Of the prohibited, and in future to be avoided, Abuses and Excesses.*

As the landlord, as protector of orphans, has the care of their property, left by their parents, it is not allowed that any part of it should be deducted, by any kind of taxes of *inventory and separation*; and likewise the *laudemia*, the tax of *querre-briefe*, and the tenths of property devised by testament, exchanged, or sold, are prohibited.

The peasants shall be at perfect liberty to buy and sell tobacco, honey, wax, schmalz (melted butter), flax, hemp, and other natural productions, from whom, to whom, and to whatever place, they think proper; without being in any manner hindered by the landlord; much less punished with fines or corporal punishments, as illicit traders; without however taking away the privilege of the landlord, given him by the seventy-fifth article of 1723, which allows him a preference when he gives in ready money, and not by deducting from the dues, the price of the articles freely determined by the peasant; and the landlord shall by no means prevent strangers from coming to buy.

As all monopolies are expressly prohibited by law; so farming out the right of dealing in natural productions, and other objects of commerce, excluding and limiting thereby the trade of the peasants, is likewise not permitted.

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The peasants must not by any means be compelled to grind their corn at the mill of the landlord, but wherever else they please.

The paying of the *bahn-weingeldes*, which has been illegally introduced, is suppressed.

The peasants are not to be obliged to give their manure to the landlord; and when they carry his into his vineyards, or elsewhere, this labour must be reckoned as forming a part of the annual fixed service.

The illegal and uncommon practices on some estates of demanding the tenths of feathers, and plucking the geese of the peasants, is entirely prohibited.

The peasants are not to be obliged to find straw for binding or tying up the vines of the landlord.

The custom on some estates, of the guards and overseers of the landlord's vineyards being paid by the peasants, is suppressed.

The maintaining of the servants of the landlord, sent out on executions; and every daily pay given in ready money; as likewise the extortions of the guards and huntsmen, are, except the execution *grofchen*, as will be mentioned afterwards, entirely forbid.

It is not allowed to demand money from the peasants, as security for their not running away; and where this has already taken place it must be returned them, together with the interest.

The quartering money, as well as the huffar and equipping money, where they have been introduced, are quite suppressed.

In those places where the shambles are farmed out to the peasants, the landlord cannot press his own cattle upon them; nor can flesh meat be sold for ready money by pounds or in pieces amongst the peasants, but it must be cut up in the shambles, so that the peasants may buy it there freely and without any difficulty.

The peasants shall not be obliged to buy or sell natural productions or articles of consumption, nor to sell for the landlord spoiled wine, brandy, or other liquors; nor are they to make good the spoiled wine, &c. which has been entrusted to them for sale; nor are they to transport the empty vessels, but as forming a part of the fixed annual labour.

The *ben and sickle* money (hüner-und sichelgeld), as likewise the *tent and press* money (zelt-und pressgeld); together with the *kostmas* introduced into some places, and the providing with victuals those who come to receive the ninths and the tenths, are all entirely forbid.

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The peasants shall not be compelled to lend their casks, either for the vintage, or for the ninths or tenths of it.

All kinds of dues of natural productions, &c. that can possibly be thought of, not included in the aforementioned articles, are entirely suppressed.

The landlord is not allowed to exchange or substitute a piece of land, for any part of the ground belonging to a farm, except it be of the same size, goodness, and fertility; otherwise he must return it.

VIII. Of those Things forbidden to the Peasants, and of the Punishments ensuing thereon.

Fines shall under no pretext whatever be taken, except in those cases where they are expressly ordered in the laws; and then only after they have been legally imposed in the lord's court, in the presence of the magistrates (the *Stuhlrichter*s and *Stuhlgeschworn*); and even then appeal may be made to the judiciary court of the county. But when damage may have been done to fields, the law having already ordained what concerns the pounding of cattle, this is to be adhered to.

In all other cases where there is just cause to punish the peasants, the offenders must neither be punished by fines, which only serve to impoverish the punished; nor with corporal punishment (except where

where the law, or this Urbarium afterwards, shall otherwise order); but they must be compelled to work without pay, one, two, or at most three days hand-labour, which, however, must not be demanded in the ploughing, mowing, reaping, or vintage seasons, but at other times.

Although, as it has been said before, the peasants shall neither be punished with pecuniary fines, or bodily punishment; yet, as it may at times happen that the peasant may offend by words or deeds, or that he cannot be bettered by the lately mentioned labour, and that consequently such offenders must be punished with corporal punishment; this shall be administered in proportion to the greatness of the offence, and must not exceed, for a strong and healthy man, twenty-four strokes with a cane; and for the other sex, the same number with a whip. But the aged, and those of weak constitutions, shall be punished with imprisonment, and even upon bread and water, according to the circumstances; yet they may not be detained from their labour more than three days; except in those cases where the crime is of that nature as to belong to the cognizance of the manor court.

When a peasant is brought into the landlord's prison, and is fettered, and put in irons, where it is the practice to pay locking-up money, it shall not exceed fifteen creutzers (about sixpence).

The peasants are prohibited to clear ground without permission of the landlord, under the penalty of losing their labour, and making good the damages that may have been done by it; but that which is already cleared cannot be taken away, without making good the value of the labour, as before mentioned.

As the care of the woods chiefly depends on the landlord, the peasants are therefore not permitted to cut wood for poles for fruit trees, nor for fences, whips or hoops, &c. without particular permission from the landlord: nor to carry it into other grounds, and sell it, and so carry on a trade in wood.

In regard to the punishing of those who cut down trees or bark them; they shall not only make good the damage, but shall be punished with three days hand-labour: but if any one is not deterred by this punishment, from injuring the woods, he shall be punished by the county court, and the landlord shall be assisted to punish him severely as an example to others.

The peasants are forbid to collect (to beg?) money or natural productions, and the offenders are to be punished with twenty-four strokes of the cane.

The clandestinely driving of hogs into the woods of the landlord,

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is to be punished, when these are caught there, with paying twice the *acorn-money*, which is fixed for their feeding in it.

The peasants are not allowed to collect *knoppern-galls*, nor to knock down acorns, as they belong entirely to the landlord, but it is prohibited as contraband, and the offenders are to be further punished with three days hand-labour; but the landlord cannot make the peasants collect them for him otherwise than by reckoning this as a part of their annual service.

Peasants are not to carry a gun, nor to keep sporting dogs, under the penalty of three days hand-labour.

They are strictly forbidden to sell any kind of liquor, except during the time already mentioned, and the offence is to be punished as contraband, and with three days hand-labour as often as committed; but when they possess vineyards they are allowed, even in the period of the landlord's exclusive privileges, to bring it home for their own use and consumption.

When a peasant, out of idleness and carelessness, after being called to his service, does not come to it, he is to be punished with twelve strokes of a cane.

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If any peasant shall bring flesh-meat from another place, or cut up and sell flesh meat, thereby taking away the profits of the shambles from the landlord; this shall be considered as contraband, and the peasant shall be further punished with three days *band-labour*.

The widows of deceased peasants must observe the order of the twenty-first article of the seventh of king Uladislaus, which orders, that if they marry again they must not quit their houses without permission of their landlord, otherwise their whole property shall be at his disposal.

A village is not permitted to contract debts without the knowledge of the landlord.

New-comers cannot be received, nor can parts of the land belonging to a farm be exchanged or sold without the knowledge of the landlord, under the penalty of losing the sums received; and in those cases where the sale is permitted by the laws, the vender must give notice to the landlord; yet he may fix the sale without his consent.

IX. *Of the Internal Police.*

In filling the office of judge, (of the village) the landlord shall present three, out of which the community shall elect one, in the presence of his officers. But the landlord can, when the judge's bad

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conduct makes it necessary, displace and punish him, and then another shall be chosen in the same manner to fill his place ; but the notaries and the sworn may be chosen and displaced by the community without the interference of the landlord.

The judge shall not, on account of the service rendered to the landlord, nor for other reasons, under any kind of pretext, be dispensed from paying the contribution (to the state).

It is reasonable and requisite, the landlord should see that the partition of the contribution be equally divided amongst the peasants, according to the direction of the county court ; and see that no fraud is committed ; and therefore he shall demand an account of it from the judge, but without any expence falling on the peasants.

Where the landlord neglects inspecting these accounts, the county magistrates shall.

But the collecting and paying into the county treasure, this contribution, shall exclusively remain in the hands of the community, and judge ; and the county magistrates shall therefore see that the landlord or his servants do not interfere in it.

All the dues from the peasant to his landlord, fixed by this *Urbanium*, shall be exactly rendered him ; and in case he neglects, he shall

shall be compelled by execution. The execution *grofschen* due to those sent out by the landlord on this business, must be paid daily, and to these only, and by no means to any others employed by the lord on other business.

That the oppressed, and those who suffer injustice, may obtain prompt satisfaction, it must be observed, that when the complaints are made against peasants of the same landlord, they shall seek justice from their landlord or his officers: but where the injury has been done by the officers of the landlord, application must be made to the landlord; and when the complainants do not obtain the reasonable satisfaction, they shall apply to the county court: but when the complaint is against the landlord himself, who on their application gives no redress, they must straight apply to the county court; and in case the landlord or his servants shall punish a peasant for having made such application for justice to the county court, or to a still superior one, he shall be considered as a tyrant.

By this ordinance the reciprocal rights of the peasants and their landlords are determined, and it appears, that the Hungarian peasant pays to his lord, for twenty-five acres of arable land (each acre containing about twelve hundred square fathoms), and twelve days mowing of meadow land, a ninth of the produce of the soil, of the lambs, kids and
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bees, and about one hundred and eleven days labour, two shillings for rent, and three shillings for fowls, butter, &c.

This I conceive to be no hard contract for the peasant. I have been informed by several great landed proprietors, that they did not receive upon an average, taking all their dues together, more than equal to a gulden, or about two shillings English, for an acre. The hardship lies chiefly in the nature of the contract: this is a reciprocal hardship, as inconvenient for the landlord as for the peasant. - It chiefly arises from receiving labour for payment; yet this kind of payment is always used in similar cases, in the first stages of improvement. This compels the landlord to keep a great part of his lands in his own hands, to employ the labour of his peasants, however he may dislike rural economy. The law must entrust him, as I have lately said, with great authority over his peasants. He requires a great many stewards, bailiffs, and overseers to assist him, and to these he must delegate a part of this authority over them. From hence arise complaints from them, on the hardship of their fate, and of the severity of their masters; and from these no less complaints of the perverse, obstinate, idle, and discontented disposition of their peasants; who by not being interested in the labour they perform for their lords, first are slothful in the performance of this, and then through custom become slothful in their own: and thus a bad state of husbandry pervades the lands. A great landed proprietor in Bohemia assured me, that he found it much his interest, to accept of sixpence
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from his peasants who were obliged to work for him, instead of a day's labour; and give ninepence to others over whom he had no other authority than dismissing them from his service.

It is, I think, a remark of the learned Dr. Ferguson, that nations, however proximate, seldom receive from one another such a discovery as can improve the state of their society, till they are nearly in a state to make it themselves. Whether this can in any degree account for the, in some degree, retrograde steps of the Hungarian peasantry, I must leave to those who are better acquainted with this part of history than I am. But it appears that the *glebæ adscriptio*, or villanage of the peasantry, was ages ago suppressed: it was suppressed by Sigismund; and this suppression was confirmed by several public acts of some of his successors: but it crept in again*.

The year seventeen hundred and eighty five forms an epoch no less

* "The peasants in Hungary could formerly leave their landlords at pleasure. This liberty was granted them by a great many laws of the land, as by the sixth article of the second decree, and the fourteenth of the third decree of king Sigismund, in the year 1405; by the fifteenth of the year 1458; by the sixteenth, twenty-seventh, and twenty-ninth of 1547; the thirty-fourth of 1550; the twenty-seventh of 1566, and several others. This liberty, under Uladislaus, was taken from all those who suffered themselves to be drawn into the rebellion of that time. From this circumstance, the Hungarian nobility has in aftertimes determined on their bondage, which, indeed not every where, yet in the greatest part of the kingdom, is introduced."

Rosenmann's Staatsrecht, Wien. 1792, p. 193.

favourable

favourable for the state of the peasantry than 1764. Nothing could be more contrary to the views of Joseph II. than a debased peasantry, that order through which, had he succeeded in his plans of reform, he expected to have received all his resources. The suppression of the *glebe adscriptio* took place in Bohemia and Moravia by the order of this sovereign in 1781, and in 1785 it was extended to this kingdom: and though, as we shall soon see, this monarch was before his death obliged to give back to the nobility their antient rights and privileges which he had taken from them, and thus cancel his own acts, this act was excepted.

This right of the peasantry to leave their landlords, did manufactures and the industry of towns flourish in this kingdom, would be sufficient soon to make them find their just value in society, and get rid of unreasonable humiliations: though indeed peasants are little inclined to change their occupations, and they often remain cultivators of the soil on which they are bred under many hardships, rather than become mechanics; and a peasant who should leave the estate on which he was born, and should apply to another landlord, would meet but with little encouragement; and as a certificate must first be obtained from his last landlord, some hindrances can still be thrown in the way of those who wish to better their lot.—Such then is the connection between the peasantry and their landlords.

To the public, of which the peasantry here forms no part, they have obligations likewise; for, the great aristocratic body being as I
 9 lately

lately said exempt from bearing any part of the public burthens, these naturally fall upon the citizens and peasants, who are emphatically styled in the public acts the *misera contribuens plebs*.

These pay a tax which is called a *contribution*, part into the military chest, and part into the county chest, or *caffa domestica*; from the first the military stationed in the province are paid, and from the latter the expences of the government of the county, the repairs of the roads and bridges, and the damages sustained by the peasants by fire, storms, and inundations; and likewise the expences of the deputies or representatives of the county, that is, of the nobility, when attending the Diets. It is assessed on the ability and opulence of the peasant, in the following manner:

				Deca.
The peasant is valued at	-	-	-	1
His 2 Sons capable of working	-	-	-	1
4 Daughters ditto	-	-	-	1
4 Farming servants, men	-	-	-	1
8 Ditto ditto, women	-	-	-	1
2 Draught or fat oxen	-	-	-	1
2 Milk cows	-	-	-	1
4 Horses	-	-	-	1
4 Young oxen	-	-	-	1
8 Calves	-	-	-	1
				16 Hogs

	Decas.
16 Hogs	1
32 Young pigs	1
Winter corn, of a whole farm	2
Summer ditto, ditto	2
Meadows producing six fuders of hay	2
A still	1
Sheep and bees, according to the profit arising from them.	

If the peasant is besides a shoemaker, taylor, weaver, smith, &c. this makes an additional deca. What is paid for a deca I am at present not able to inform my readers; but I hope to do this in an Appendix. That part paid into the *caffa domestica* must vary, according to the expences of the county.

The clergy, when united in defence of their own interests, unconnected with the other part of the aristocratic body, with which they have often a common interest, and deprived of that influence which acts over the consciences of men, are a very powerful body. They have in the Diet, according to a paper in Mr. Slötzer's Staats Anzeigen, No. 64, about a hundred votes; and the revenues of the higher clergy, and the great offices they fill, give them still greater weight; for, besides their spiritual charges, many of them are lord lieutenants of the counties.

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The revenues of the archbishops and bishops are given in the *Political Journal* for 1783, thus :

	Florins.	that is, about	£. sterl.
The archbishop of Gran	360,000		36,000
Bishop of Erlau	80,000		8,000
Nitra	40,000		4,000
Raab	20,000		2,000
Waitzen	50,000		5,000
Fünfkirchen	30,000		3,000
Vesprim	50,000		5,000
Archbishop of Kolotscha and Bats	50,000		5,000
Bishop of Groß Wardein	70,000		7,000
Ofanad or Zischenad	2,000		200
Zagrab in Croatia	20,000		2,000
Syrmien			
Bosnia	25,000		2,500
Transylvania	12,000		1,200

The bishoprics founded in 1777, as Stuhlweissenberg, Neusohl, and Rosenau, are not mentioned in this list.

This then was the state of the kingdom in 1780, when, by the death of Theresa, the sole government of it, with the rest of the Austrian monarchy, devolved to Joseph II.

The Sovereign was limited, and half thought an usurper, by

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not

not being an Hungarian. The nobles and clergy were powerful and privileged; the citizens were debased, and the peasants were bondsmen: yet all gloried in the name of *magyar*, and were unanimous in despising their German rulers. Joseph knew all this: during the life of Theresa he had visited more than once this kingdom; and he was not ignorant whom he had to govern.

Under these unfavourable circumstances, he undertook the difficult labour of reform, his favourite object; which he must be aware would alienate from him the affection of the powerful among his subjects: he knew certainly too well mankind, to think that the goodness alone of his plans would be sufficient to make them well received, when the conduct not only of individuals, but of whole communities, is so much influenced by interest, pique, and caprice: but the temple of JANUS was then shut in all this part of Europe, and he could give his mind up entirely to this project.

The first error he committed was his dispensing with the ceremony of coronation; a ceremony which, however trifling it may appear to other nations, is thought to be of great importance in Hungary. An old author (Inchofferus) says, "Nemo ut rex legitimus habetur nisi prima illa corona, quæ Stephani, primi regis, caput cinxit, nempe Angeli monitu a Silvestro Papa, missa coronatus. Ea de causa, sacram vocant, & incredibile studio, loco & custodibus deputatis, conservant; non aliter quam si salus & religio Hungariæ

Hungariæ ex ea dependeret.” “No one is considered to be the lawful Sovereign, unless he has been crowned with the crown which was placed on the head of St. Stephen, which was sent at the command of Heaven by Pope Silvester, and is therefore considered as sacred, and is kept with all imaginable care.” It cannot be supposed that Joseph omitted this to insult the nation, but rather to avoid swearing to them, by taking the oath which accompanies this ceremony, to keep sacred their rights and privileges, when he intended immediately to destroy them.

In 1784, he acted no less unconstitutionally by ordering the crown to be brought from Hungary to Vienna. By the lately quoted passage it is seen in what esteem this is held by the nation. The place where it should be kept is fixed by the Diet; and without a decree of this assembly it cannot be legally removed.

By a law under Ladislaus it was ordered to be kept at Vissegrade; but by another decree of the Diet in 1608, its place of conservation was altered to Presburgh. The keepers of it were chosen by the Diet, and took an oath * not even to *show* it to any one, without permission of the sovereign and the states, and to defend it until death.

The.

* *Quoniam sua majestas regia, atque omnes status & ordines Hungariæ, in præfenti generali Dieta Posoniensi congregati, sacram ejusdem regni Hungariæ coronam, simul cum omnibus ejus clenodiis, fidei & custodiæ meæ concredere dignati sunt: Ideo, juro per Deum vivum, quod ego, sacræ regię majestati, ac dicto regno Hungariæ, fide-*

The division of the kingdom into counties, with the administration of their government and police, through counts and vicounts or lord lieutenants, deputy lieutenants and inferior officers, was next suppressed, and a division of the kingdom into ten circles, with a *royal commissary* at the head of each, substituted to it. This was no trifling alteration; for it took in some degree a great and honourable office accompanied with and giving great influence, and which in some families was hereditary, from the nobility, and threw greater influence into the hands of the sovereign.

The same year the *glebe ascription*, or villanage of the peasants, was suppressed. This being done by a royal mandate, and not by an order of the Diet, was illegal; and was considered as an invasion of the rights of the landed proprietors.

lis & obediens ero, dictamque sacram regni coronam, summa fide, diligenti cura, vigilantia ac sollicitudine, custodia adservabo; sine præcitu & voluntate sum regis majestatis & regni, *neminem ad illam visendam & perscrutandam admittam*; aut alieno illam tradam; atque quolibet anno, certis temporibus, frequenter huc Posonium me conferam, & locum conservationis dictæ coronæ diligenter perscrutabor & inspiciam; ac ut salva semper & secunda persistat, omni diligentia & fidelitate curabo; ac, si quid suspicionis, & hostile, in januis, feris, vel parietibus, advertero; de eo confestim sacram majestatem suam regiam, vel palatinum edocebo. Item si quem motum, vel tumultum, in regno hoc oriri, contingeret; de illo quoque, ad majestatem suam regiam, & dictum palatinum subito referam; & ad custodiam dictæ coronæ majus præsidium humiliter petam: ac in persona mea, ad mortem & vitæ exitum, fideliter & constanter illi adstam, omneque periculum pro posse meo, ab illa avertam.

The

The royal mandates now became more arbitrary and despotic. In this kingdom several languages are in common use in particular districts; and the public acts and proceedings are accordingly carried on in these different languages. Joseph, whose favourite project was to form out of his vast possessions one uniform government, published an order, that after three years all public business should be transacted in the German language; and those filling the public offices, if they did not make themselves masters of this language, not only to speak it, but to write it likewise, should be dismissed the public service. The Germans form but the smallest part of the people of Hungary, and are looked upon by the Hungarians as a kind of intruders: how must it not then have enraged the latter to be obliged to learn their language! An old *MAGYAR* to be *obliged* to learn, and to learn the *GERMAN* language! To such this mandate must have been more terrible than the news of the invasion of the Turks. Not but this language is pretty generally known to most of them: above the vulgar, in the cultivated parts of the kingdom.

Some alterations in the mode of administering justice added likewise to the discontents.

But the introduction of the *land tax* rendered the nobility almost outrageous. Hitherto the lands in the hands of the *plebs* had only paid; now all were to be equally taxed, and no respect was to be paid to the occupier or proprietor of the soil; only to the fertility
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of it, and its local advantages. But to apply this mode of taxation, it was found requisite to measure every piece of land in the kingdom, and to ascertain its productive powers : and this Joseph ordered to be executed, and with the greatest expedition. People totally unacquainted with land surveying, from the want of a sufficient number of proper persons, were therefore obliged to be employed ; and through the ignorance of these, and probably from the secret opposition of those who were affected by this tax, great errors were committed : this was a further cause of complaint.

During these reforms, which, if practicable, required to be introduced with the greatest circumspection, and under the most favourable circumstances, Joseph involved himself in a war with the Turks.

It is well known that the Austrian arms acquired no laurels in the beginning of this war, and that a great dearth of corn was felt in the Austrian camp. Hungary is looked upon as the granary of Austria ; and it could, though corn was not as usual plentiful that year, have assisted its Sovereign, had it been satisfied with his conduct towards it. But it refused its assistance, and Joseph published an order to oblige the landed proprietors, whom he was about to deprive of their privileges, to deliver into the royal magazines a certain quantity of corn, at a price fixed by himself. The price for wheat was four shillings a *metzen* (about two English bushels) ; for barley two shillings and sixpence, and oats two shillings. One half

of the corn delivered in, was to be paid for in ready money, and the other half after the war. These prices were indeed higher than the usual market prices; but on account of the war, wheat was sold in the market for eight shillings, and the other kinds of corn, high in proportion. Some obeyed through fear the order of the Emperor, others would not. Where the military were quartered, force was employed. Hay was likewise demanded. A large landed proprietor assured me, that the succeeding winter he lost many score of cattle, for want of this article, which had been taken from him. This added much to the discontents already raging.

Nor can it be supposed, that Joseph did not extend his reforms in religious matters to Hungary. At the very beginning of his reign, he displeased the Catholic clergy, by giving toleration to the Protestants. He took away their churches, and applied them to profane yet useful purposes: he suppressed their monasteries and convents*, and changed and new modelled their seminaries of learning. Even the towns had something to complain of; for he took from them some of their privileges, and put them under the jurisdiction of the circles.

Against these violations of the laws of the land, very bold representations were made by several of the counties; and the dis-

* According to De Lucca, 130 monasteries and seven convents were suppressed by Joseph II. At present, according to the same author, there are 168 monasteries and eleven convents in this kingdom.

satisfaction

satisfaction of the nation reached the Sovereign's ears by various means.

Though the surveying of the kingdom was begun in 1785, as laying a foundation for the assessment of the general land-tax; yet the tax itself was not fixed till February 1789, and it was not to be put in force till November of the same year. Then, as a part of the same vast scheme, all dues from the peasant to his lord, in labour and produce, were to cease, and about eighteen per cent. according to the assessment, was to be paid in lieu of it. The taxes likewise from the peasant to the Sovereign were to cease, and about twelve per cent. was to be paid in the same manner: so that seventy per cent. remained for the peasant, after paying his landlord and Sovereign. As no land was to be privileged, so naturally the lands of the nobility and clergy were to pay the twelve per cent. for the public service; as well as those in the hands of the peasant.

Joseph's health was much impaired by the fatigues of the first campaign against the Turks; and in 1789 it was expected he would soon terminate his earthly career. Whilst at war with the Turks, and a Prussian army on the frontiers of Austria, his subjects in the Netherlands were in open rebellion; and complaints and threats of further insurrection assailed his throne, or rather his death-bed, from every quarter. Hungary and Tyrol, the freest of his people, were the loudest in their complaints; but the states of Bohemia, Moravia,

and Galicia were not indifferent to his arbitrary government; and the lower classes of the people who were the objects of this monarch's particular care, were complaining of the high prices of the necessaries of life.

Arbitrary indeed was the government of Joseph; yet no one I think will question the goodness of his intentions, however they may disapprove of his measures. How severe a mortification must it not have been to him, after passing so many sleepless nights in planning for the welfare of his people, to find nothing but discontent and dissatisfaction within their breasts, and this, when the state of his health required the sincere applause of his subjects, the greatest recompense to a patriot king, as a cordial to support his drooping spirits, now oppressed with disease! Yet still complaint. And now every bright hope of high public prosperity, through the introduction of his wise political institutions, he found daily decreasing. How willingly he would have obeyed an earlier call of death, which should have rescued him from greater mortifications! Yet, quick as the summons came, it was too slow to save him from the cruel punishment of being obliged to cancel with his own hand the acts of his whole government, and of thus making, on his death-bed, an *amende honorable* to public opinion and aristocratic rights.

On the 4th of February 1790, he published the following revocation, and on the twentieth of the same month he retired at once

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from the vexations of government, and the world. " Since we intend to open the Diet, which we promised you on our royal word on the 18th of December of last year, after the constitutional coronation ordained by the second article of the decree of the Diet of 1723, and after the signing of the inaugural diploma ; and since we intend personally to attend this Diet, we have thought proper to defer it until peace, that we being free from the cares of war and recovered from the disease which enfeebles us, may be able to devote ourselves entirely to the affairs of the kingdom, which are the object of the deliberation of the Diet : and that you may have no cause of uneasiness, whilst waiting for this yet indeterminate time, we have resolved that it shall not be deferred further than the year 1791. Accordingly we promise you upon our royal word, that we will call the Diet next year, which shall be held as the laws of the land ordain : and that we may not confine to this alone our paternal kindness towards the Hungarian nation ; and to satisfy your wishes also in this short interval until the holding of the Diet, we have of our own free choice taken the resolution to place the administration of the state and of justice, from the 1st of May of this year, entirely in the state we found it in 1780, upon the decease of the Empress and Apostolic Queen our dear mother, when we took upon ourselves the government.

" Although we have since this time changed some of the branches of the public administration, with the view to advance the interest of the kingdom, and in hopes that taught by experience you would approve

of it; yet as we are informed that you prefer the former mode of administration, and that you seek and find your happiness in the maintaining it, we make no difficulty likewise in this matter to comply with your desire; for the welfare of the people intrusted to our care being the only object of all our wishes and efforts, that way which is pointed out to us by the unanimous voice of the nation will always be the most agreeable to us. Accordingly we declare by this, that as soon as all the counties of the kingdom are reinstated in their former authority given them by the laws, in respect as well to the transactions in general and particular congregations, as to the constitutional election of magistrates; and as soon as the royal free towns and free districts shall be restored to their former activity, all the other acts published since the commencement of our reign, which according to the common opinion may seem to be contrary to the laws of the land, shall be revoked and lose their force. But to avoid all confusion that might happen in the public administration; before further notice is given to you concerning the formal revocation of the former acts (for which purpose we have already given the requisite orders), it is our will, that nothing be done by private authority, and that you pay obedience to the present lord-lieutenants of the counties, till the (former) lord-lieutenants can enter upon their offices. Further it is our will, that our act of toleration, the regulation concerning the ecclesiastical offices, and what we have ordered in favour of the peasants, as well concerning their treatment as the tie of subjection, shall remain in force; in as much as these acts may quite be concili-

liated with the laws of the land, and are founded upon a natural reasonableness: and the arranging of the ecclesiastical affairs is our duty as first patron of the church: and we are convinced that you have, after your reasonable manner of thinking, already given them your most perfect approbation. Finally, that nothing may remain undone towards completely satisfying your wishes, we have ordered that the crown and the other insignia, which we in the mean time have preserved in our treasury, shall be carried immediately to our royal palace in Offen, where we have already given orders to prepare a proper place for them, where they shall be kept as the law ordains. By these regulations, made according to the established laws, you receive a fresh token of our paternal love towards the Hungarian nation, and at the same time an everlasting witness, that since the legislative power, according to the laws of the kingdom, is equally divided between the prince and all the states of the kingdom, we likewise will support the rights of the states, and deliver them over to our successor in the same state we received them. We promise ourselves likewise that you will supply the wants of the state for the campaign of the present year, by furnishing corn for the support of the troops assembled for the safety of the kingdom, and by furnishing of recruits in the manner which may appear to you most proper."

Thus was a reign of nine years, which at first promised to form a brilliant epoch in the history of Europe, almost erased from its page. Yet must it be recorded as a lesson to other rulers, to teach them

them that the feelings and wishes of a people are not to be slighted, nor a nation to be governed like an estate, and that even good regulations and institutions should not be arbitrarily nor too hastily introduced. Good princes are often metaphorically called the fathers of their people. As the head of a family Joseph governed his dominions; he desired the welfare of his children; and he planned for their happiness, and wished them to receive with submission his plans, which he would have immediately executed. It is said by his biographer Pezzel, that being advised by his ministers not to be so hasty in his reforms, he said, "Of all that I undertake, I will immediately see the effects: when I put in order the *Prater* and *Augarten*, I did not take young shoots which might only serve the next generation, but trees under whose shade I myself and my contemporaries might find pleasure and advantage."

This revocation being a compelled one, the dislike and mistrust of the nation was as inveterate as ever towards the House of Austria, and it required the greatest circumspection in his successor to quiet his enraged people. In some places the people had the boldness to burn the public edicts of their sovereign, under the gallows, on the news of his approaching death.

In this critical situation Leopold ascended the throne; but reluctantly entered his Hungarian dominions, to receive with trembling hands the ensigns of power from his incensed people, many of whom wished to set aside their Austrian connections. An Hungarian

rian author, speaking of the serious aspect of the kingdom at this period, exclaims, "Deum immortalem! quam tetra, quam lugubria, quam funesta fuisset tunc harum ditionum facies! Cædes, incendia, rapinæ, vastitas universum regnum & florentissimas regni civitates miserandum in modum deformassent; vici omnes & oppida acervis corporum, & civium sanguine redundassent; templa ipsa Dei O. M. ac delubra nefariis ignibus conflagraissent! nisi divina, eaque singulari providentia Leopoldus II. quasi de cœlo missus, habenas imperii capeffivisset; qui patriam, vitamque omnium nostrum, bona, fortunas, parentes, cognatos, atque aras ipsas, ex flamma ac ferro & pene ex faucibus fati ereptas & conservatas nobis restituit. Ille leges, jura, libertatem, veterem formam regiminis pristino loco collocavit; ille comitia, solennem sui inaugurationem, jusjurandum, ceteraque omnia quorum dilatio animos antea perculerat, præstitit; ille medium illum, qui populum & regem dividebat, parietem demolitus est: ille mutua civis inter & principem fiduciam quasi ab interitu suscitavit; ille subjectos jam propemodum templis, mœnibus, ac tectis nostris, circumdatosque ignes restinxit; ille districtos gladios a jugulis nostris singulari sapientia, & divina quadam animi moderatione, rejecit *."—"Heavens! what a melancholy and dreadful aspect these possessions would have presented! Rapine, slaughter, and conflagration would have stalked over the land, and would have destroyed the kingdom; unless it had pleased the Almighty to send

* Oratio pro Leopoldo a Step. Pallya.

Leopold

Leopold to take the reins of government into his hands, who has saved us from fire and sword, and has snatched us, as it were, from the jaws of fate."

Complaints therefore, from every quarter, on the illegal government of Joseph were presented to his successor Leopold. The representation from the county of Neitra, on the 2d of March 1790, is expressed in this harsh language ;

" We saw the sacred crown of the kingdom taken away : we saw God robbed of his churches ; the laws of their sacredness ; parents of their children * ; the nation of its language ; the kingdom of its privileges ; the dead of their customary burial. We saw the meanest kind of flatterers hatch plans, and leave nothing undone which could in any manner contribute to the destruction of the kingdom. We saw the sacred vessels profaned ; the respect of pre-eminence overturned ; the power of the possessor of the soil diminished ; the education of youth spoiled. We saw men well deserving of their country, and learned in the sciences, deprived of their places ; but foreigners, and ordinary people, who neither through birth, nor through morals, uprightness or experience, had distinguished themselves, put in the place of those industrious children of the country (the natives), as teachers of the German language. We saw the native inhabitants

* Alluding probably to taking of recruits.

occupying

occupying public offices, engaged by an oath to undermine the liberty of their country ; many of them break boldly into our cellars and granaries, and take from us, without citing, hearing, or convicting us, corn, sheep, and children (recruits?) without respecting our common origin, or availing themselves of the power of the laws. We saw the fertility of our country's soil, to which the blood of our forefathers had given fertility, magnified in an extraordinary manner, and to our injury ; and what is still more, an oath expressed to give credibility to this falsehood. We saw our country arbitrarily measured ; many millions (of guildens) expended on a mob composed of various nations, which devoured our money gained with blood, sweat, and hard labour, and misused our property, to maintain common prostitutes, &c."

National hatred against the Germans, with patriotism, arose more violent than ever. Every thing German was despised, and this people were liable to be insulted if not protected by the Hungarian dress ; for the patriots were more than usual attached to their manners and dress ; and the *moustaches*, which, with the polished part of society, were grown out of use, were again introduced. The more violent were for carrying things with so high a hand, as to consider, since Joseph never was crowned, the Austrian succession to be at an end. Many were for a new *diploma*, or bill of rights ; and it is certain one was really drawn up, in which the Sovereign was to be deprived of the right of nominating to the public offices ; and
all

all the charges in the mines, post-office, &c. &c. were to be exclusively given to the nobility; the sovereign was not even to appoint the officers of the army, nor to fix their pay. He was to be compelled to reside in Hungary, and the government of the kingdom was to be entirely separate from the other part of the Austrian dominions. He was to have no *veto* in the legislation, and the states were to have the privilege of assembling without his order. Taxing the land was not even to be thought of. The states were to be allowed to form treaties of commerce without the consent of the king, and coining was not to be the prerogative of the crown. Peace and war were not to depend on the king, nor was he to form treaties, without the consent of the states; and he was to include in his coronation oath the thirty-first article of the second of King Andrew, which permits the subjects to take up arms against their sovereign, if he should infringe their rights. But the *moderates* were contented that affairs should be put in the state they were in, on the Emperor Joseph's accession to the throne; and these fortunately both for sovereign and people, prevailed.

The crown, about which so much stir was made, was sent back to Bude on the 18th of February, that is, two days before Joseph's death. How much this is valued, and how it was received by the nation, may be seen by this trifling letter, written at the time, and printed in Mr. Slötzer's *Staats Anzeigen*, No. 54.

“The crown, the greatest jewel of royalty, is brought back with
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the greatest pomp and imaginable joy : wherever it passed in its journey from Vienna to Bude, the most magnificent preparations were made for its reception. The splendour of the ladies in the Hungarian dress, was never equalled before : they wore blue petticoats, with short jackets of the same colour turned up with fur, faced with gold ; their head-dresses were black velvet kalpacks * with gold lace and feathers.

“ Patriotism awakes in all its force : every body wears the Hungarian dress : such a scene of joy was never known before : here with us, likewise, the crown was received with all imaginable pomp. As it was deposited at night in the chapel of the palace, the whole city and suburbs were illuminated : this was a most beautiful sight, and our streets being long and straight contributed much towards it. Woe to those who did not keep their lamps in proper trim, or who put them out too soon ! Their windows were broken without mercy. In every street, throughout the night there was rejoicing, and whole crowds of people paraded about with music, and cried, ‘ Huzza ! The freedom of the Hungarian nation for ever ! ’ I can now form a pretty good idea of the revolutions in France and in the Netherlands. It seems to me as though I were there, for I never in my life saw any thing equal to this. It was on Friday the 19th of February that the crown arrived here, to be further transported to Offen. Only imagine what extra-

* A kind of Hussar cap.

ordinary joy was demonstrated on its return, when even all religious restraints ceased, and our bishop gave a grand supper to the keepers of the crown, and the nobility, where flesh was served up; and in the public streets and houses there was dancing as in the Carnival. I must desist; I can by no means describe every thing: yet I must tell you, that the crown was exposed to public view on the altar of the cathedral church: the nobility were very desirous of seeing it: it was kept at night in the palace chapel, guarded by the officers of the county, and town magistrates, with naked swords. On its arrival at Offen on the 21st of February, the city notary Francis Balast, in the name of the magistrates and citizens, addressed the keepers of the crown in a Latin oration, in which he congratulates the nation on its return, which he considers as the pledge of the return of its rights*.

The people now in possession of their crown, their rights restored,
and

* * * *Excelsi Proceres, sacræ regis coronæ custodes! Quam, auspice Supremo Numine, ante octo propemodum sæcula Austriacus, archipræsul Colocensis, divo regi Stephano attulit à Sylvestro nominis hujus Illo, Romanorum maximo pontifice, sacram regni hujus Hungariæ coronam, eandem à tristibus Isabellæ reginæ temporibus ex hac urbe et arce Budensi absentem, dum hodie solenni hocce ritu rursus per vos, Excelsi Proceres, reduci, et velut exoptatæ felicitatis tesseram ad gremium regni et urbis istius in avitam regni sedem modo collocari cernimus; gaudet populus, lætantur cives, exultat nobilitas, universi denique regni status et ordines suorum votorum compotes fieri gratulantur maxime. Nec immerito. Felicem enim patriam nostram, cui diadema istud regium, ex diversis saluum periculis, in sinum suum, tanquam firmum redditi veteris ju-*

and their grievances redressed, the effervescence subsided; and the fame of the wisdom of the new sovereign daily diminished the remaining discontents. And Leopold, a few months after his taking the reins of government into his hands, ventured to assemble the states of the kingdom in a Diet; after a vacation of six-and-twenty years: and the following business was transacted.

The first article only concerns the ascent of Leopold II. to the throne.

The second contains his inauguration oath, which is the same as that taken by the Empress Theresa. Herein he promises, that the royal crown shall be kept in the kingdom, and be guarded by the crown keepers, chosen from among the members of the states; that the lately acquired countries, which formerly belonged to the king-

ris et potestatis pignus, ad commune gentis Ungricæ decus licet reponere. Gloriatur proinde triumphans ætas nostra; et non minus ultima quoque plaudat posteritas. Dignum propter ea, ut augustissimo principi nostro, a cujus benignitate et clementia hæc accipimus, immortales in homagiali submissione referamus gratias. Dignum, ut inclytis statibus et ordinibus, quorum in exorando principe virtus fuit eximia, perpetua litemus gratitudine. Nos vero Budenses iacolæ, quibus sacrum hunc thesaurum semper coram venerari conceditur, æterna dici isti spondemus solennia; vobisque, Excellsi Proceres et Custodes, ad tuendum pro gentis Ungricæ beatitate hoc regale ornamentum, omne robur, vitam et fortunas in adjutorium sanctæ voti religione addicimus et consecramus."

dom.

dom of Hungary, shall be united to it; that when the present family which sits upon the throne shall be extinct, Hungary shall again become an elective monarchy; and that all his majesty's successors shall be bound to take this same oath.

The third ordains, that in future the inauguration and coronation shall take place within six months after the decease of the last sovereign.

The fourth is concerning the usual present from the states to his majesty.

The fifth is on the election of the archduke Leopold as Palatine.

The sixth decrees that the crown shall be always kept at Offen.

The seventh takes the manor of Munhats from the royal domains, and substitutes to it a district in the county of Bats.

The eighth decrees that Count Joseph Keglevich of Bazin, commander of the order of Saint Stephen, chamberlain to his majesty, and lord lieutenant of the county of Torn; and Count Michael Nadash, heir of Fogaras, chamberlain to his majesty, and hereditary lord lieutenant of the county of Komorn; shall be the keepers of the crown, being unanimously chosen by the states.

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The ninth says, that the king promises to reside longer in Hungary than has been of late the custom.

The tenth decrees that the kingdom of Hungary shall be independent of the other Austrian dominions, and shall not be put on the same footing with them, but have its own particular government as decreed in 1715 and 1741.

The eleventh orders that the limits of the kingdom shall not be altered, that the differences which have arisen concerning them shall be settled, and the parts that have been separated from it shall be reunited.

In the twelfth, the king voluntarily acknowledges that the power of making, laying aside, and interpreting the laws, is a joint prerogative of the sovereign and the states; and he promises that he will not govern by royal mandates, edicts, and patents; that the courts of justice shall not be altered by him, nor their judgements changed or revised, but that he will put them in force according to the intent of the law.

The thirteenth decrees that the Diets shall be held every third year, and oftener if the state of affairs requires it.

The fourteenth ordains that the administration of the affairs of the

the kingdom belongs to the council of the lieutenancy (*Staatbalterey-rath*) of the kingdom, whose duty it is to make representations to the Sovereign, if his orders transmitted to them to be enforced be contrary to the fundamental laws of the kingdom.

The fifteenth constitutes a committee to draw up a plan for the education of youth, and for the liberty of the press. In

The sixteenth the king promises that public transactions shall not be carried on in a foreign language; but, that the Hungarian may become more general, a teacher of this language shall be appointed in the academies and *gymnasia*. For the present the business of the courts (*dicastria*) shall continue to be transacted in the Latin language.

The seventeenth puts in force the eleventh article of 1741; the King promising to admit Hungarians into his ministry, and to put those, who are properly qualified, in a situation of being employed in the diplomatic line; and further, that only Hungarians shall be employed in the management of the *internal* affairs of the kingdom; and in the external they shall be admitted.

The eighteenth is concerning the oath to be taken by those employed in the courts; and it orders that no one, on a mere accusation, shall be dismissed from his office. In

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The nineteenth the king promises, that no subsidies, either in money, natural productions or recruits, shall be demanded, either from the states, or the tax-bearing people ; not even under the name of a free gift, or other title, but only in the Diet ; but the maintenance of the established military shall always be fixed from one Diet to the other ; and the eighth article of 1715, and the twenty-second of 1741, on this subject, are hereby confirmed. In

The twentieth the king is so good as to promise, that the price of salt (it is a royalty) shall not be raised, except on pressing occasions, out of the Diet. In

The twenty-first the king says he will take care that the ninety-ninth article, concerning the public fund, shall again be put in force.

The twenty-second decrees that the Post shall be put under the direction of the council of the lieutenancy, &c. ; and that the administration of the mines shall be ameliorated. By

The twenty-third the King is to see that the churches, and other similar foundations, are not deprived of their rights.

The twenty-fourth confirms the rights and honours of the *Palatine, Primate, Ban, and Tavernicus.*

The twenty-fifth confirms the rights and privileges of the royal
free

free towns, mining towns, the districts of the *Jazygers* and *Cumanians*, and the fix towns of the *Haydukes*.

The twenty-sixth is on matters of religion. (See the next article on the state of the Protestants).

The twenty-seventh gives the non-united Greeks permission to acquire landed property, and to fill the public offices and charges.

The twenty-eighth restores the counties of Temeswar, Torantal and Kraffo to their right of sitting and voting in the Diet.

The twenty-ninth gives the *Jazygers*, *Cumanians*, and *Haydukes* the right of sending severally two deputies to the Diet.

The thirtieth constitutes the cities of Temeswar, Theresianstadt, Posega, and Carlstadt, royal free towns.

The thirty-first prohibits games of hazard, under the penalty of a hundred ducats (about fifty pounds).

The thirty-second decrees, that the privileges granted by Joseph II. are only valid when confirmed by his present majesty.

The thirty-third orders that a committee shall be chosen to draw up a plan for making a *military enumeration* of the people.

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The thirty-fourth declares the orders of the last government for measuring the kingdom, together with the claims for the expences incurred in this business (except the claims of private persons), to be invalid, and orders that in future no such measuring shall be made.

The thirty-fifth determines the connection between the landlord and his peasants, confirms the Urbarium introduced by the Empress Theresa, till the Diet to be held in 1792; when this subject is to be reconsidered: recommends the county courts to see that the peasants are not oppressed; acknowledges the perpetual servitude of the peasants to be contrary to the rights of man, and injurious to the state; and to have been suppressed in 1405, in the reign of Sigismund; in 1458, under the Stadtholder Szylagy; in 1547 and 1550, under Ferdinand I.; and in 1566, under Maximilian: but to have crept in again; and decrees its entire abolition; and gives the peasants leave to quit their landlords, after paying their dues and rents; and to dispose of their moveable property: yet too great an emigration from any district is to be prevented, as being injurious to the nation.

The thirty-sixth orders that the privileges of acquiring landed property, granted by Joseph II., and the rights of those who have acquired them, shall remain undetermined till the next Diet; the present possessors however remaining in the mean time in quiet possession; and that the population and industry may be increased, his majesty promises to divide the estates lying in the counties of

Temeswar, Krassó, Torantal, Bacs, Arad, and Tſanadd, amongst those who are deserving of them. In

The thirty-seventh the king promises that the corn and hay delivered, by order of Joseph, to the army, shall be reckoned as part of the contribution; that he will take into consideration the cases of those who have suffered by the Turkish war; but to favour the royal treasury, the nobles and free towns are only to be paid for what they delivered after the conclusion of the present Turkish war.

The thirty-eighth permits the Jews to dwell in all places (except in the mining towns), as previous to 1790, till the committee has had time to lay before the states further arrangements.

The thirty-ninth orders that the royal courts of justice, &c. &c. shall be transferred to Pest.

The fortieth orders an amelioration in the penal and civil codes, and in the modes of trial.

The forty-first orders a revision of the causes tried under the preceding reign; and decrees the punishment of dis-ennobling the nobility to be invalid.

The forty-second suppresses the use of torture in criminal cases.

The forty-third permits the citizens, and those not noble, to appeal, in criminal cases, to the higher courts, as well as the nobles.

The forty-fourth orders the causes which have commenced in the courts instituted by Joseph, but which are not terminated, to cease ; and the documents to be returned to the respective parties.

The forty-fifth declares likewise invalid the causes which have passed judgment ; but which judgment still remains to be enforced, &c. &c.

The forty-sixth concerns causes brought before the king's court ; which, if there only on points of law, are to be thrown out.

The forty-seventh orders that causes which have passed the king's court may be sent back for further revision.

The forty-eighth orders that causes merely on points of law, brought before the *septem-viral* court, shall be thrown out.

The forty-ninth concerns the revision of causes before the *septem-viral* court.

The fiftieth orders that causes determined and ordered for execution shall remain in *statu quo* ; but the suffering party may, in

the ordinary way, commence a new law-suit, and appeal to higher courts.

The fifty-first re-establishes the manor-courts in the rights they possessed prior to the innovations of Joseph II.

The fifty-second orders that law-suits called *octaval* and *tabular*, may be continued before the king's court; for which reason the documents in the archives must be restored to the parties.

The fifty-third orders that causes of appeal before the king's court, not yet terminated, shall be commenced in the legal manner, within the two next terms of the general courts of the kingdom.

The fifty-fourth orders that the judgments of the courts established by Joseph, but now abolished, and other judicial proceedings, shall be valid.

The fifty-fifth confirms the judgments given during the government of Joseph in matters of marriage and divorce.

The fifty-sixth decrees that, in future, trials for high treason shall be brought before the king's court.

The fifty-seventh is to prevent the destruction of the woods and forests.

The

The fifty-eighth places Dalmatia, Croatia, and Slavonia, under the care of the Council of the Lieutenancy.

The fifty-ninth orders that the *contribution* of Croatia and the three counties of upper Slavonia shall be always determined in the Diet, but separate from that of Hungary, and shall never be raised but in the Diet. By

The sixtieth the king promises that the free town Zengh shall be exempt from the military jurisdiction, and its grievances redressed.

The sixty-first is concerning the district of the sea coast called the *Littoral*: and it constitutes Buccari and Port Royal, the first a commercial town and the other a free port.

The sixty-second orders a district lying between the *Carolus* and *Joseph* commercial roads, to be put under the political jurisdiction. In

The sixty-third the king promises to order a commission to examine the differences concerning the territory of Repus, &c. In

The sixty-fourth the king promises that the nobles, and the burghers of the free towns, shall, according to the fifty-ninth article of 1618, be exempt from paying customs and tolls in the military districts.

The

The fifty-fifth is the offer of the states of their persons and fortunes, in defence of their king and country, if it should be requisite to continue the war against the Turks. In

The fifty-sixth the states promise to raise immediately six thousand recruits, to complete the Hungarian regiments; and to form a plan for a more speedy and efficacious recruiting of the army.

The sixty-seventh appoints the following committees to carry on the reforms in the political, economical and judiciary affairs of the Kingdom, begun but not terminated in this Diet, whose labours are to be laid before the Diet, which is to meet next year, and to be confirmed by its decrees if approved of.

A committee on Public political affairs.

The contribution or taxation.

The urbarial affairs, or matters between the landlord and peasant.

Trade, customs, and imposts.

The mines and mint.

Judiciary matters.

Literary matters.

Spiritual concerns.

Public grievances.

The

The sixty-eighth appoints commissaries to examine into the differences with the neighbouring provinces, concerning their respective limits.

The sixty-ninth decrees that those who have acquired the *indigenat* (denizenship), but have not paid the usual tax, shall be struck off the list of denizens, if they do not take the oath and pay the tax before the ensuing Diet.

The seventieth decrees, that in conformity to the seventeenth article of 1711, all foreigners possessing rich church benefices, as bishops, provosts (*probsts*), and abbots, shall pay a tax of a thousand ducats into the public treasure; but the provosts, abbots, &c. who enjoy only small ones, shall pay but 200 ducats.

The seventy-first gives the right of denizenship to Prince Cobourg, (without paying the usual tax of 2000 ducats) as a mark of gratitude from the Hungarian nation, for his military services rendered them in defending their country against the Turks, and reconquering Walachia and Moldavia.

The seventy-second gives denizenship to Prince Waldeck, the Baron of Gemingen, Count Clerfaut, Count Soro, Baron Spielman, Ignatius Bora and Baron Mitrosky, without paying the usual tax.

The

The seventy-third gives denizenship to several persons named therein ; to some on paying half, to others on paying three-fourths ; and to others on paying the whole of the usual tax of two thousand ducats.

The seventy-fourth gives denizenship to the Marquis of Manfredini, without paying the usual tax.

Thus a storm raised through imprudent and ill-timed reformations, which might have severed from the Austrian monarchy the finest part of its dominions, blew over ; and now the liberty of the peasants, and the toleration of the protestants, were confirmed by acts of the Diet.

The persecution of the latter had often given rise not only to bickerings, but to acts of violence. Shall not injustice, hatred, and avarice, have endeavoured to accomplish their ends under the mask of religious zeal ? Shall not a difference of opinion in religious matters have been in this country, as in others, a cause of public misfortunes ? The rights of the Protestants, by the articles of the peace of Vienna in 1606, agreed on between their Protector Botkai and the Emperor Rudolf ; and by the peace of Linz, in 1645, between their supporter Rakotzi and the Emperor Ferdinand III. were solemnly secured : yet this did not prevent them from subsequent persecution under different pretences. How could the best of sovereigns, when

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surrounded

surrounded by their enemies, ever active in their endeavours to render them odious to him, by describing them as a most dangerous sect, be their protector? Under the virtuous Theresa they were not less vexed, than under the profligate prince, who was taught, that his deviations from virtue might be made up for by zeal to the true church. By a *resolution* of Theresa, in 1749, it was ordered, that those who should leave the catholic persuasion, should be imprisoned for two years; and if within this time they should not return to the church, they should be sent to hard labour!!! But let it be known, for the honour of Hungary, that in the Diet of 1791, when the rights of the protestants were confirmed, exclusive of the clergy there were only eighty-four members who voted against them; though two hundred and ninety-one for them; of whom one hundred and eighty-one were Magnates, and the greatest part of them catholics. How great an honour is this spirit of toleration to the Hungarian nation!—Where is there a nation in Europe, in which the seceding religions have the privileges they have here? entire freedom of public worship, with churches and bells, and their own schools and seminaries of learning; and a right to fill all the public offices, and a seat in the legislative councils. It will probably be agreeable to most of my readers to see this more in detail; I shall therefore lay before them a translation of the twenty-sixth article of the Diet of 1791, which is entirely upon this subject.

This article decrees, “ That in future, without respecting any

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new ordinances or privileges, all orders, barons, magnates, nobles, royal free towns; as likewise the market towns and villages, shall have the free exercise of their religion; with liberty of building churches, even with steeples and bells, and possessing schools and churchyards: and nobody, of whatever rank he may be, under any pretext, shall be in anywise hindered or impeded in the enjoyment of this privilege, by his majesty, or other landlords. The peasants, whether resident in market towns, villages, or royal domains, shall likewise, for the general good and public peace, not be prevented from enjoying the same advantages, either by his majesty, his ministers, or other landlords. For the confirming of which it is decreed, that henceforth all distinction of public and private worship shall cease; that private shall no longer exist; but that everywhere it shall be public; consequently it shall now be permitted to the protestants (as it will be fixed afterwards) to appoint ministers, build and repair churches, with or without steeples, parsonage houses and schools, everywhere; even in those places where hitherto there have been none; without further leave being granted; but with this proviso, that, as the government must be particularly attentive to the support of the *tax-bearing* subjects, where it is intended to introduce free religious worship, to build churches, chapels, or to appoint ministers, previously a mixed committee of the county, in the presence of the landlord, yet without the diocesan, shall be held, accurately to examine and to acquaint the county of the requisite expences to be incurred; of the

number and wealth of the people and settled inhabitants, and whether they are able to bear the requisite expences; and when according to this examination it appears that the number of the people and the funds are sufficient, the landlord shall fix a spot of ground, where the church, parsonage house, and school may be built. But the catholic inhabitants are by no means bound to assist, either by money or labour. This is likewise to be observed towards the protestant landlords and people, when a catholic church is to be erected.

“ But it is to be observed, that the introducing of religious worship, the building and repairing of the churches and parsonage houses, &c. always remain free and unrestrained to the protestant nobles and landlords.

“ In consequence of this religious liberty, the protestants cannot under any pretext, under the penalty of pecuniary fines, whether they are artificers or people of rank, be compelled to be present at the holy mass, processions, or other religious ceremonies, notwithstanding corporation privileges.

“ The protestants of both confessions must in religious matters depend on their own spiritual superiors alone; but that this subordination in spiritual matters may obtain its proper organization, his sacred majesty has resolved to establish that order, which meets with the general approbation of the clergy and laity of the protestant religion,

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as well concerning the appointment of superiors and directors, as the other regulations, without invading religious liberty; for which reason his majesty, in consequence of his right of supreme inspection, will hear the protestants, and likewise take care that a proper discipline, agreeable to the principles of their religion, shall be introduced: in the mean time it is decreed, that the church laws already existing, which are introduced by their directors, and which at present are followed, and likewise those which in future, according to the sense of this law, shall be introduced, shall not be altered by any *disasterial* or royal ordinance. They shall not only be allowed to form consistories, but likewise to call synods; his majesty to appoint the place of their meeting: but his majesty must previously be informed of the number of the persons to be present, and the business to be considered, which shall likewise be determined by him; and likewise such a synod called by permission of his majesty, whether it be of the Lutherans or Calvinists, must admit to be present a deputy from his majesty, if he requires it, of whatever religion this deputy may be; who indeed cannot direct or preside, but only have the inspection. But the church laws or ordinances made in these synods, shall only be valid after the royal inspection and approbation; and his majesty, notwithstanding the mentioned liberties, has reserved to himself the executive power of supreme inspector, through the legal courts, as likewise the other royal prerogatives in the religious concerns of the protestants.

“The protestants can likewise retain their *trivial* and grammar schools.

schools where they are already existing ; and can, with the royal consent, establish new ones, both inferior and superior ; appoint or dismiss professors, rectors, subrectors, and school-masters ; increase or diminish them ; and in future elect local, superior, and general directors, or curates, of the schools from amongst themselves ; likewise fix the method and order of study : but here likewise his majesty has reserved to himself, through the legal courts, the superintendence, so that the general management of the literary *police*, the determination of which the states have most humbly referred to his majesty, shall extend over this. The students shall be permitted to collect (money) for themselves, or for their ministers, and to frequent foreign academies, and enjoy all the *stipendia* destined for them. The protestants can freely print *symbolic* (catechistical), theological, and other religious books, under the care of those whom they have chosen for this purpose, and whose names have been transmitted to the royal lieutenancy ; but with this condition, that they contain no derision, ill-natured or satirical remarks upon the catholic religion ; upon the responsibility of the *censors*, who have permitted their impression. The three copies, as ordained by the law, must be transmitted to his majesty, through the royal lieutenancy.

“ The church dues which the protestants have hitherto paid to the catholic parish priests, school-masters, or other such officers, either in money, productions, or labour, shall in future entirely cease, and after three months, reckoning from the publishing of this law, shall be no more any where demanded, except the protestants make use
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of them of their own accord ; and in this case they must render the same as the catholics. How this deduction, from the incomes of the catholic parish priests, may be made good to them, his majesty will condescend to hear the representations of the royal lieutenancy ; but it is now made known, that he will never permit any thing to be demanded from the *tax-bearing people* *, or the royal treasury, on account of these indemnifications.

“ On the building or repairing of churches, parsonage-houses and schools, the protestants are not obliged to assist the catholics with labour, nor the catholics the protestants ; therefore the former contracts of this nature are hereby declared invalid.

“ The protestant ministers may visit the sick and imprisoned of their religion, with the requisite care and prudence, at all times and in all places ; prepare them for death, accompany them to, and support them at, the place of execution ; but may not make any harangues to the people. The catholic priests when they are called to the sick imprisoned, or to those sentenced to die, and observe the requisite care, can by no means be denied admittance.

* The reader should be informed, that when a peasant through poverty or any other cause is obliged to leave his farm, which is a kind of copyhold estate, his landlord takes possession of it ; which then being in the hands of a nobleman pays nothing to the government.

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“The public charges, offices, and honours, whether high or low, great or small, shall be given to natural-born Hungarians, who deserve well of their country, and possess the other requisite qualifications, without any respect to their religion.

“The protestants are freed from swearing by the usual legal oath, that is, *by the holy Virgin Mary, the saints and chosen of God.*

“The pious foundations and donations of the protestants which already exist, or which may in future be made for their churches, ministers, schools and students, hospitals, orphan-houses, or their poor, cannot be taken from them under any pretext, nor yet the care of them: but rather the unimpeded administration of them shall be intrusted to those from amongst them to whom it legally belongs; and those foundations, which perhaps may have been taken from them under the last government, shall be returned them without delay. The supreme royal inspection extends itself likewise over such foundations, to the end that the intent of the founders may be answered.

“All affairs of marriage of the protestants are left to the decision of their own consistories: nevertheless his majesty, out of his royal care, after having consulted the protestants, will take such measures that the organization of the consistories may secure the rights of the litigating parties; and at the same time the principles by which these are

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to judge shall be transmitted for his inspection and approbation. In the mean time, these lawsuits on marriage shall be tried in the civil courts according to the principles laid down of late years, that is, before the courts of justice, in the counties and districts where these exist; and before the magistrates in the royal free and mining towns; yet with the right of appealing, when the circumstances require it, to the royal court, and even to the *Septem-viral court*.

“ It must be observed, that the sentence of divorce only possesses a civil effect, and the bishops cannot be bound to admit of the entire dissolution of the marriage bond; nor extend it to the catholics in cases where what is considered by the laws as a degree of consanguinity prohibited in marriage is by the principles of the protestants allowable. His majesty has, as it was done under the emperor Joseph, allowed them once for all, to contract marriages in the third and fourth degree of consanguinity, without further dispensation.

“ As by these laws the free exercise of religion and the maintenance of the churches, schools, &c. &c. of the protestants are provided for in the surest manner; it is likewise determined, for the further maintenance of peace and harmony between the catholics and protestants, that both parties shall remain in the possession of the churches, schools, &c. &c. which they now possess; the foundations of the catholics being in future applied to the benefit of the catholics, and those of the protestants for the use of the protestants; so that not only all re-

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coveries on both sides shall be forbidden (except that the protestants are allowed to prove their claim to the Zirmay, Hrabowsky and Apaffy foundations), but likewise no such taking possession of churches, schools, &c. &c. can be permitted, and those who shall be guilty of such acts of violence shall be fined six hundred guildens (about sixty pounds), according to the intent of the fourteenth article of 1647.

“ Since the changing from the catholic religion, to either of the protestant religions permitted by the constitution, is contrary to the principles of the catholic religion, such cases must be made known to his majesty, to prevent any rash steps. It is likewise prohibited, under severe punishments, to entise by any means a catholic to the protestant religion.

“ It has been already made known, that these privileges of the protestants are only valid in the kingdom of Hungary; wherefore the kingdoms of Dalmatia, Croatia, and Slavonia, are left in the further enjoyment of the laws of their country. The protestants therefore within the limits of these kingdoms are not permitted to possess immoveable property, nor to fill public or private offices: yet they have the liberty of maintaining, through the medium of the laws, their ancient rights; and when they by this means obtain their possessions, his majesty takes upon him to provide for their indemnification; and the few places in lower Slavonia, which are partly Lutherans, partly Calvinists, shall con-

tinue in the enjoyment of free religious worship, as hitherto. Lastly, the protestants shall have, on account of commerce and manufactures, free liberty to hire dwellings; but not to acquire houses or landed property from nobles or citizens.

“ Children that are, or shall be, born of a mixed marriage (and it is to be noticed that such marriages must always be performed by catholic priests, who are strictly forbid, under any pretence, to attempt to hinder them) shall all be of the religion of the father, if he be a catholic; but if the mother be a catholic, then the male children only are to follow the religion of the father.

“ Law-suits on marriage, as well those which exist from the connection between the two religions, as likewise those which arise from the conversion of one sex from the protestant religion to the catholic, belong to the spiritual catholic jurisdiction, because in both cases it is concerning a true sacrament.

“ The protestants of both confessions are bound externally to observe the feasts which are now celebrated by the catholics, but not internally, as in their own dwellings, where they are allowed to carry on all their usual professions, which do not disturb religious meditation; and it is by this ordered, that all landlords and masters of families, under the penalty of public prosecution, do not prevent their subjects and servants, whether they be catholics or protestants, from the observance of the festivals and ceremonies of their religion.”

I am sorry to be obliged to detract something from this favourable account by observing, that the kings of Hungary, as first patrons of the church, have great influence in religious matters, as may be seen by the preceding piece; and that as the confirmation of the rights of the protestants has never prevented them from persecution, so probably in future, should Hungary have a bigoted sovereign, they may not be entirely free from molestation. Many of the catholics, and even many of their priests, are no doubt men of liberal minds; yet there are too many still strenuous adherers to the principles of the church of Rome, and artful and intolerant priests too readily get the ascendancy over weak men. A few years ago the lord-lieutenant of the county of Zips was called to account for excluding the Lutherans of his county from some public charge; and it then came out, that he had formerly taken an oath to the catholics to do so.

Father Coppi, an enlightened and learned man, wrote in 1792 a funeral sermon on Count Rada, a very virtuous, respectable and learned protestant, in which he used these words: "*Vive igitur, illustrissime comes, vive vitam hanc, quam posuisti beatiorē! Mirabimini forte, hæc ab homine catholico ita dici; verum noveritis, utique nos quoque non alium vivorum atque mortuorum judicem nosse quam qui muneris sibi & quidem soli divinitus datum affirmavit.*" The censor, an Ex-Jesuit, ordered this to be altered or omitted, saying, "*Scandalosum enim est, ut protestanti, nullum signum poenitentiae danti, æternam beatitatem adgratulemur.*"

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The protestants must not be considered as a small insignificant sect. It is generally believed that the protestants, that is the Lutherans and Calvinists, are equal in number to the catholics; and a couple of centuries ago they were more numerous. It is said in the *Manche Hermaen*, that in 1559 *all the great families except three were protestants*. De Lucca says, the protestants of Hungary and Transylvania, in 1779, were only 450,000; but prior to the conscription of 1785, the population of this kingdom was greatly undervalued, as we shall soon see. Here, as well as in Germany, they are more esteemed for morals, good sense, learning and industry, than the catholics. Yet they have often been treated with great severity, as though they were the worst members of society: from the year 1681 to 1773, they had not less than 675 churches taken from them.

C H A P. V.

POPULATION AND INHABITANTS—REVENUE—COMMERCE—
AND MILITARY FORCE.

ON what principles the population of Hungary was formerly calculated, I know not; but on the *conscription* under Joseph II. in 1785; the common estimates were found to be much too low. Windisch, an Hungarian, in his *Geography of Hungary*, published in 1780, says, "The population, according to a new accurate examination, is, 3,170,000, excluding Transylvania, Slavonia, and Dalmatia." And the celebrated Busching says, the population of Hungary in 1776 was 3,170,000; and of Transylvania, Slavonia, and Croatia, 2,000,000: this gives only 5,170,000. Mr. Zimmermann, in 1787, in his *Present State of Europe*, probably follows the same calculations as Mr. Windisch, as he states Hungary alone at 3,170,000, and Illyria at 620,000, which is 3,790,000; and with Transylvania, which he estimates at 1,250,000 only, 5,040,000. In a geographical work, and the most common one in our island, printed in 1792, it is said, "Both Hungaries at present, exclusive of Transylvania and Croatia, are thought to contain about two millions and a half of inhabitants."

But

But the committee appointed by the Diet of 1791, to enquire into things of this nature, some of whose notes I have had in my hands, estimate the population of Hungary in its greatest extent, but always excluding Transylvania, at about eight millions, which they add is 1777 souls per square mile*: no doubt this estimate is founded on the conscription of 1785. The only detailed accounts yet made public, founded upon the same data, as far as my knowledge extends, are in Mr. Slötzer's *Staats Anzeigen*; and in No. 61 of this work there is this table, which gives a population in round numbers of seven millions and a half.

3,625,617	Persons under twelve years old:	{ 1,894,309 females. 1,831,508 males.
3,218,039	Persons above twelve years old,	{ 1,620,234 females.
	married and unmarried:	{ 1,581,805 males.
140,340	Widowers,	} not included in the preceding articles.
167,132	Widows,	
19,103	Spiritual persons. - - -	{ 14,240 males. 4,863 females.
34,790	Nobility of both sexes.	
17,213	Public officers and gentlemen (<i>Beamte & Honoratioren</i>):	
96,533	Absent for an unlimited time:	{ 63,120 males. 33,413 females.
79,371	Absent upon public business for a limited time, only males.	
25,377	Jews; forming 4375 families.	
<u>7,417,415</u>	Total population.	

* German mile ?

These

These live in towns and in the country, in houses and cottages, and have

1,403,120 Fire hearths.

Of this total population there are

442,411 Citizens and mechanics: $\begin{cases} 304,106 \text{ in towns.} \\ 137,305 \text{ in the country.} \end{cases}$

892,134 House-holders, peasants, &c. (*Hausväter, Bauren, und Halb-Bauren*) occupied in agriculture.

4,210 Estates and *prædia*.

But another table in No. 47 of the same work makes it only 7,008,574, though supposed to be taken from the same source. As this table specifies some articles not mentioned in the other, I lay it likewise before my readers, and hope in an Appendix to be able to assign the reason of these differences.

99 Cities.

548 Market towns (*Mark-flecken*).

10,776 Villages.

1,200 *Prædia*.

1,053,353 Houses.

1,314,362 Families: $\begin{cases} 1,299,141 \text{ Christian.} \\ 15,221 \text{ Jewish.} \end{cases}$

7,008,574 Total population: of which $\begin{cases} 6,933,485 \text{ Christians.} \\ 75,089 \text{ Jews.} \end{cases}$
there are - - -

13,802 Spiritual persons, male sex.

162,974 Nobility, male sex.

4,387

- 4,387 Public officers and gentlemen.
- 83,871 Citizens in towns, and tradesmen and mechanics in the country.
- 509,823 Peasants.
- 511,976 Next heirs and successors in business of the preceding citizens and peasants.
- 788,993 *Häuslers* (proprietors or occupiers of houses?).
- 4,681 Soldiers absent for an indeterminate time.
- 42 Carters.
- 183,995 People that may be applied to other wants of the state.
- 983,871 Young people from one to twelve years old.
- 267,101 ————— from thirteen to seventeen do.
- 3,417,996 Female sex.
- 1,399,332 Married men, Christians.
- 2,116,157 Unmarried men and widowers.
- 117,919 Absent: { 96,851 yet not abroad.
3,801 abroad.
17,267 unknown where.
- 106,800 Strangers, natives of Hungary.
- 23,476 Strangers { Out of the other hereditary Austrian dominions, } 13,895 men,
3,481 women.
Out of countries not belonging to Austria, } 5,287 men,
813 women.
- 75,089 Jews: { 38,124 males, } 15,044 married.
36,965 females, } 23,080 unmarried and widows.

The reader will be struck with the enormous differences in some of

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the articles, and be inclined to think them sufficient to invalidate the whole.

In the first table the nobility of <i>both</i> sexes is given at	34,790
In the second, the <i>male</i> sex alone . . . - . . . at	162,974
Officers and gentlemen in the first - - - at	17,213
In the second - - - - - at	4,387
The Jews in the first at 4,375 families - - -	25,377
In the second - - at 15,221 do. - - -	75,089

However these tables differ, they agree in this, that the population of Hungary is above seven millions; and we have already said, that the committee appointed to enquire into this subject, who had no doubt the conscription lists before them, and access to the best sources of information, estimated in their report the population at near eight millions, which is about double the common estimate.

Mr. De Luca mentions * a third table, which he says was laid before the Emperor Joseph II. on the termination of the *conscription* in 1786, by the Hungarian chancery, which gives the population at 7,001,153; which is thus detailed:

Christian families	—	—	—	1,299,301
Jewish ditto	—	—	—	15,208
				<hr/>
Number of families	—			1,314,509

* Geographisches Handbuch, vol. iv. p. 189.

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Spiritual persons	—	—	—	—	13,728
Nobility	—	—	—	—	162,495
Public officers and gentlemen	—	—	—	—	4,396
Citizens, and tradesmen in the country	—	—	—	—	8,656
Peasants	—	—	—	—	584,226
Heirs and successors of the citizens, &c.	—	—	—	—	511,561
<i>Häuslers</i> (occupiers of houses?), gardeners, and day labourers	—	—	—	—	788,014
Absent	—	—	—	—	
Unknown	—	—	—	—	4,125
On public business	—	—	—	—	183,830
Children from one to twelve years old	—	—	—	—	983,175
Ditto from thirteen to seventeen	—	—	—	—	266,853
The female sex	—	—	—	—	3,414,366
Total of Christians					6,926,025
Jews					75,128
					<u>7,001,153</u>
Of which there are					
{ married					1,398,705
{ unmarried, and widowers					2,113,784
Abroad	—	—	—	—	95,892
Unknown (where)	—	—	—	—	3,842
Strangers (from) within the <i>conscripted</i> countries	—	—	—	—	17,165
from the hereditary Austrian dominions					
{ males					106,557
{ females					14,104
					<u>120,661</u>
from other states					
{ males					51,147
{ females					813
					<u>51,960</u>

Mr. De Luca then makes the observation, that conscription tables generally fall short of the real population, rather than exceed; and concludes by saying, that we may fix, notwithstanding the differences of the tables, the population of Hungary, including the *military borders*, and Transylvania, at about nine millions. From which if we deduct one million and a half, his estimate for the population of Transylvania, seven millions and a half will remain as *his* estimate of the population of Hungary; giving 6,974,000 to Hungary in the most limited sense of the word, and 2,500 inhabitants for each German square mile; 259,000 to Slavonia, with 700 per square mile; and 267,000 to Croatia, with 500 per square mile.

These inhabitants are of various distinct nations. The proximity of this country to the storehouse of human kind, from whence proceeded the immense swarms which over-ran the greatest part of Europe for several centuries about the Christian æra, must have rendered it one of the first sufferers amongst European nations on these emigrations westward. When the Roman arms made their way into Pannonia and Dacia, these countries were inhabited by a Slavonian race; these were the original inhabitants of Hungary. But all the great eastern swarms have made it their residence in their march westward. The Vandals, the Goths, the Huns, the Gepedes, and again the Goths, the Longobards, the Avars, and lastly the Magyars, the fathers of the present race of Hungarians. Even in more modern times, of which history has given us a pretty distinct

distinct account, upon wars and dissensions amongst the more eastern nations, large bodies have emigrated hither to form settlements; as the Cumanians in the twelfth century: and the irruption of the Tartars in the thirteenth was the ruin of Hungary for a long time. To these emigrations we may in part attribute the variety of distinct people we at this day find in this kingdom; for the Hungarians, who seem to be an Asiatic swarm, and probably of Kalmuck origin rather than Finnish, who took possession of this country in the ninth century; and who were probably a tribe of that people who, several centuries before, had ravaged a great part of Europe under Attila, do not form above one-third of the inhabitants of Hungary*.

The Slavonians, who are the *Aborigines*, are the most numerous, and may be divided into different races or tribes: as the Croats, Illyrians, Ruffians, Vandals, and Bohemians.

The Germans form, according to Mr. Slötzer's *Staats Anzeigen*, a ninth of the inhabitants. It has been much controverted, whether these are the remains of some of the ancient emigrating swarms, or whether they are, though old, yet more modern colonies from Germany. It is too intricate an enquiry for me to involve myself

* Mr. De Luca says, in his Statistical Tables, published in 1793, that the Hungarians are the least numerous of the three nations. This I think is an erroneous and partial statement.

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in ; yet so far is pretty clear, that a part of them has been invited hither, by different Hungarian sovereigns, from various parts of Germany, to form settlements, with the view of increasing the population of the kingdom, diminished by its frequent wars ; and of civilising its inhabitants by the introduction of arts. That many Germans, on the invitation of Geysa II. settled themselves in Transylvania, in the twelfth century, and obtained from him great privileges, is well authenticated ; and many German colonies have been founded here in this very century : those planted by the Empress Theresa were principally from Swabia, Frankonia, and the Palatinate.

These different people do not live promiscuously together, but separate ; and in one district the traveller only meets with Hungarians, and in another district only with Sclavonians ; it is likewise so with the Germans and Wallachians, as may be seen in the map that accompanies this work.

Besides these there are Jews, Greeks, Armenians, and zigeuners or gipsies, scattered about the kingdom.

Seven or eight millions of men, on a fertile soil, ought to make a respectable figure on the theatre of continental politics ; and Hungary has had its day, when the most powerful princes of Europe fought its alliance. In the fourteenth century, under Lewis the Great of Hungary, a greater man than Lewis the Great of France,
its

its dominions extended from the Baltick to the west coast of the Black Sea, and from thence to the Adriatick ; and Matthew I. (Corvinus) made it no less respected in the succeeding century, not only in arms but in arts. Literary men and the most skilful artists he called to him out of Italy ; and he employed three hundred transcribers in different countries, but particularly in Italy, to copy valuable manuscripts for his library. Hungary was then the residence of its sovereign, and Vienna was in his possession.

What resources the Austrian monarch derives from this kingdom I do not exactly know ; but certainly not what he might, were there a greater cordiality between him and his people. The nation will not, and by its laws cannot *, grant any kind of supplies, except in public Diet, and the sovereign unwillingly assembles the states. At

* Since I left Hungary I have been informed that two Hungarian noblemen have been degraded, and declared infamous, for making some kind of subscription for the Emperor their sovereign, for carrying on the present war. This is forbid by this article in their code of laws : In corpore juris Hungarici, artic. 1, anni 1504, fundatus in art. 3, anni 1222. Si quis comitatum motu proprio, & non de consensu & de voluntate totius regni, extra scilicet conventiones regni generalis, contributionem aliquam seu quodcunque subsidium, præter solitum lucrum cameræ, contra videlicet antiquam regni libertatem, regis majestati quovis modo & quovis colore exquisito offerrent et præstarent : ex tunc universitas nobilium hujusmodi comitatus universaliter in poenam fidefragii seu perjurii, amissionemque honoris & humanitatis, convicta et condemnata, a consortio ceterorum regni nobilium relegata et segregata habeatur ipso facto.

the

the last Diet, in 1792, they gave him a *don gratuit* of four millions of guldens (400,000 pounds sterling), one thousand horses, and five thousand recruits, for carrying on the present war.

Windisch, the Hungarian geographer, gave the royal revenue in 1780 at near nineteen millions of guldens, which is about one million nine hundred thousand pounds sterling.

From the <i>Contribution</i>	-	-	-	-	3,900,000
From the Mines and other Royalties	-	-	-	-	15,000,000
					<hr/> 18,900,000

Busching, in his *Wochenliche Nachrichten*, gives the following statement :

<i>Das Camerale</i> (from the royal domains, &c.)					4,253,003
<i>Das Montanificum</i> (from the mines*)	-	-	-	-	5,300,118
<i>Das Bancale</i> (from the duties)	-	-	-	-	2,890,731
<i>Das Politicum</i>	-	-	-	-	58,992
<i>Das Contributionale</i> (from the contribution)	-	-	-	-	5,473,579
<i>Das Commerciale</i>	-	-	-	-	27,729
					<hr/> Guldens 18,004,153

* From a very competent judge, and one employed in the mining department, I have been informed, that the neat revenue the emperor receives from the mines is from three to four millions of guldens, and including the salt mines fifteen millions.

And

And De Luca, in his *Statistical Tables* published in 1793, puts down eighteen millions for Hungary in the most limited sense of the word, one million for Sclavonia, quoting *Taube* as his authority, and 200,000 for Croatia; for Hungary therefore, in the extended sense of the word, 19,200,000. According to these estimates, the revenue from this kingdom is about one-fifth of the whole Austrian revenue, while its population is nearly one-third*.

Commerce and manufactures give now preeminence to nations; and a fertile soil and mines of gold, without national industry, with difficulty bear the burthens of a state. Commercial industry is here very low, and the patriots lay this to the charge of the court of Vienna: and it is true that the court of Vienna, not being able to draw the same resources in men and money, the two great requisites of war, which now constitutes the greatest part of the expences of governments, from this part of its dominions as from its other less privileged, is little inclined to favour its commerce; particularly in articles which come in competition with those of its other provinces.

This is no doubt a principal cause of the public inactivity; but the Austrian government ought not to bear all the blame. Would it not be unreasonable to expect to find agriculture, manufactures, and com-

* Crome in his *Tables ueber die Größe & Bevölkerung, &c.* 1794, gives the Austrian revenue at ninety-one millions of guldens (about 9,100,000l. sterling) and its population at twenty-five millions.

merce in a flourishing state, in a country so backward in its political institutions? But the Hungarians will not advert to this, nor reflect that national industry is the associate only of a particular stage of society, to which they are not yet advanced: which they may hasten or retard, by laying aside, or rigidly adhering to, institutions calculated only for infant societies.

But in Hungary how is the productive part of the nation considered? Where is the stimulus to activity? The *cast* of the peasants is but just emancipated from bondage, and still remains quite deprived of the right of possessing landed property; and the *cast* of the citizens is not much better.

The ruling principle of the court of Vienna, it is true, is to consider this country as its magazine of raw materials; and as a consumer of its manufactures. Against this principle great complaints are justly made; but as it has no manufactures but of the coarsest kind, which are for home consumption, it is only felt as an evil preventing the rise of manufactures.

But the clogs that are put on the exportation of its natural produce, in which the riches of the kingdom and the revenues of its opulent land-holders consist, is an evil continually galling individuals. Wherever I went I was led into cellars full of wine, and into granaries full of corn, and I was shewn pastures full of cattle. If I felicitated the owners upon their rich stores, and of articles never out of fashion,

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I heard one common complaint—the want of a market, the want of buyers.

Some of its natural productions are rivals to the natural produce of other parts of the Austrian dominions, as its wines. The exportation therefore of this article is checked by imposts and custom-house formalities and expences*.

The local situation of Hungary is unfavourable: it is chiefly surrounded with countries which stand in no need of its produce. It has fine rivers, but these run in a different direction from the course of its commerce, the Austrian provinces, which are the markets for

* Duties on Hungarian produce entering Austria compared with the duties of the produce of Poland, taken from notes of the Committee. By Poland I believe is meant that part of it belonging to Austria, Galicia, &c.

			Hungarian.	Polish.
Beer per <i>eimer</i>	-	-	12 creutzers.	5 creutzers.
Butter per cwt.	-	-	40	32
Raw sheep skins, the 100	-	flor. 2	0	flor. 1 36
Wheat the Presburg measure	-	-	4	3
Rye	-	-	3	2
Millet	-	-	4	3
Calves skins, ten pieces	-	-	2	1 36
Mead per <i>eimer</i>	-	-	48	19

N. B. Sixty creutzers are one florin, and one florin two shillings.

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four-fifths

four-fifths of its exportation ; whilst they run toward Turkey. And land carriage is rendered very expensive by the badness of the roads, and territorial tolls ; a thing severely felt upon raw produce.

An Hungarian writer says, that good wine which is bought for six shillings, has an additional expence upon it of eight shillings when it reaches the port of Trieste ; and that corn which is bought for two shillings, an expence of six ; tobacco that costs twelve shillings a hundred weight, likewise an addition of six.

The annual exports, according to the following list, are above sixteen millions of guildens, or 1,600,000l. pounds sterling ; and its imports eleven millions, or 1,100,000l. sterling ; which gives a balance in favour of Hungary of half a million sterling.

In 1778 there was exported 14,262,800

And imported 10,390,328

3,872,472 Balance in favour of Hungary.

In 1779. Exported 16,205,217

Imported 9,313,191

6,892,026 Balance in favour of Hungary.

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In 1780. Exported 12,198,815
 Imported 10,419,230
1,779,585 Balance in favour of Hungary.

In 1782. Exported 13,527,124
 Imported 9,192,743
4,334,381 Balance in favour of Hungary.

In 1783. Exported 16,682,069
 Imported 10,847,121
5,834,948 Balance in favour of Hungary.

In 1785. Exported 17,510,129
 Imported 12,049,198
5,460,931 Balance in favour of Hungary.

In 1786. Exported 17,600,000
 Imported 12,100,000
5,500,000 Balance in favour of Hungary.

In 1787. Exported 17,800,000
 Imported 13,800,000
4,000,000 Balance in favour of Hungary.

This balance in favour of Hungary, of about five millions of
 guildens, or half a million sterling, is not the consequence of its
 exported :

exported manufactures, but of its great exports of raw produce, as the following table from De Luca, for the year 1783, will show.

Horned cattle	-	-	3,670,000	
Hogs	-	-	780,000	
Sheep and goats	-		540,000	
Other animals	-		70,000	
			<hr/>	5,060,000
Flour	-	-	1,060,000	
Wheat	-	-	990,000	
Rye	-	-	640,000	
Oats	-	-	350,000	
			<hr/>	3,040,000
Wine	-	-	-	1,040,000
Liquors	-	-	-	40,000
Wool	-	-	-	2,810,000
Wax and honey	-	-	-	224,000
Potash	-	-	-	122,000
Flax and hemp	-	-	-	64,000
Knopper-galls	-	-	-	62,700
Feathers	-	-	-	20,000
Fish	-	-	-	80,700
Game	-	-	-	128,000
Flesh meat and fruit	-	-	-	250,000
Colours	-	-	-	11,700
Drugs	-	-	-	7,700
Wood and wooden wares	-	-	-	50,000
Skins, leather, and furs	-	-	-	360,000
Tallow, soap, and cart grease	-	-	-	42,700
Metals and minerals, and articles made from them, of which 1,080,000 copper				1,290,000
				Linen

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Linen	-	-	-	-	-	80,000
Woollen cloth and other woollen articles	-	-	-	-	-	121,000
Silk and silk goods	-	-	-	-	-	21,600
Paper, and articles for printing	-	-	-	-	-	14,500
Stone ware and other pottery	-	-	-	-	-	9,500
Cotton goods	-	-	-	-	-	4,800
<i>Grämer Waaren</i>	-	-	-	-	-	64,200
						<hr/>
						15,019,100
Of which there was exported to						
Austria	-	-	-	-	-	9,000,000
Moravia	-	-	-	-	-	2,600,000
Inner-Austria	-	-	-	-	-	1,300,000
Bohemia and Silesia	-	-	-	-	-	1,130,000
						<hr/>
						14,030,000
Transylvania	-	-	-	-	-	427,000
						<hr/>
(Therefore to the hereditary dominions)	-	-	-	-	-	14,457,000
Foreign countries	-	-	-	-	-	2,225,000
						<hr/>
Total Exports	-	-	-	-	-	16,682,000
						<hr/>

Why there is no mention of tobacco in the preceding list I know not. It is a staple produce and article of exportation. Professor Miller, of Groß Wardein, in his *Schedium Fabricarum*, &c. gives the export of it at eight hundred thousand florins. Nor does this list account for the 16,682,000 florins of exportation, only for 15,019,100. But it is sufficient to shew that its exports are almost entirely raw produce.

Several attempts have been made to increase the markets by forming commercial companies, and by establishing agents in foreign countries:

countries : but none of these schemes have succeeded, and the blame, as usual, is laid on the Austrian government.

Hungary we have before noticed to be much behind most other countries of Europe in its political institutions ; it is natural therefore to expect to find some here still in vigour or hardly laid aside, which have in other parts of Europe been long in disuse, and are now only spoken of as institutions of ancient times, and have passed to the study of the antiquary. Though the Hungarians are of a descent quite different from those nations which now form the polished part of Europe, yet the same means of defending their country occurred to them, which were in use with these : the nobility throughout Europe was formerly the defence of their country : and the nobility of Hungary are still the constitutional defence of the kingdom ; though, since the custom of keeping great standing armies, they have been seldom called upon.

The standing military forces of the kingdom are now—

9 Regiments of Infantry of 3000 men	-	-	27,000
13 Regiments of Frontier Militia (<i>Gränze Regimenten</i>) of			
4000	-	-	52,000
			<hr/>
			79,000
7 Regiments of Hussars of 1200	-	-	8,400
			<hr/>
			87,400

And a battalion of *Tschakisten* (a kind of river-guard or militia.)

...The regular troops are, I believe, paid out of the *contribution*, but the militia by grants of lands on feudal tenures.

Since the Turks, by extending their conquests, have become the neighbours of the Hungarians, these latter, by prescribing boundaries to them in this part of the world, have become their natural enemies, and almost perpetual hostilities between these two warlike people have been the consequences: and to prevent the inroads and ravages of the ferocious followers of Mahomet, the Hungarians have found it requisite to be always ready to repel them; and with the same view, therefore, that the ancient feudal governments, under the remains of which we live, and the rest of Europe groan, were formed, they have constituted, for the frontiers of Hungary towards Turkey, a kind of feudal government: this seems to be the work of the sixteenth century.

This district, which is called the Military Frontiers (*Militarische Gränzen*), commences at the most western corner of Dalmatia on the Adriatic, and runs through Croatia, Slavonia, Banat of Temeswar and Transylvania, into the Bucovine: but the local situation of this district must have varied, as the boundaries of the possessions of these two nations, through the fortune of war, have varied. It is but a little more than a century that the metropolis of Hungary was in the quiet possession of the Turks, and for a century and a half; and the last English traveller, who has published his Tour in Hungary, had there to pay his court to a Turkish Basha.

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This long tract of land which furrounds Hungary on the south and on the east, has about four hundred and twenty thousand inhabitants, the fifth part of which is military. It is divided into * five principal divisions, as those of the Banat, of Croatia, of Dalmatia, of Slavonia, and of Transylvania : these are again divided into provinces or regimental districts, and these into companies. As this is quite a military government, there are no civil magistrates, but military ones : a regimental district may be considered as a county, and it has, instead of a lord lieutenant, a colonel ; and a district of a company, which may be considered as a *processus*, instead of a *judex nobilium*, a captain ; and so likewise with the inferior officers, who supply the places of inferior civil magistrates. Over each of the principal divisions there is, or was in the time of the Empress Theresa, a brigadier. These military magistrates have men of the law to assist them.

The soil of Hungary, the possessors of it say, is *allodial*. When its produce is taxed, when in the hands of the peasants, it is not the soil that is taxed, but the labour of the peasants ; for as soon as the lands of the peasant fall by failure of heirs, &c. to his lord, the taxes cease to be paid.

* Kerefytury, in his *Introductio*, &c. Vienna 1788, gives six districts ; as 1^{mo}. Karlsstadt, divided into four regiments ; 2^o. Banat into two ; 3^o. Warasdin into two ; 4^o. Slavonia into three ; 5^o. Banat of Temeswar into two ; 6^o. Transylvania into three ; which gives sixteen regiments ; somewhere I have read of seventeen ; that is probably by including the Tschakists ; and this gives 272 companies.

On the military frontiers there are no nobility, and the king is the only allodial possessor of the soil: as such, he has divided this district into parcels, which he has granted as fiefs on the condition of the occupier rendering military services.

The smallest portions of land are one hundred and twenty yards long, by eighty broad: of these, if the land be good, eight; if middling ten, and if of the inferior kind twelve, form a fief for a foot soldier. Before the cavalry was laid aside, a horseman who equipped himself had sixteen of the best kind, and so in proportion of the less productive: but he had only twelve if equipped by government.

The dues of each holder of a fee oblige him to devote his sons, except the eldest, who is to look after the farm, to the military service. If the father be old, he may keep his youngest son with him likewise. This military service is only in lieu of rent for the land, and the feudatories pay taxes like other subjects.

The laws of fiefs here are:

They cannot be disposed of at pleasure; the consent of the superior officer is requisite.

Any person, who has been in quiet possession of one for twenty years, becomes proprietor of it.

Those who quit them in time of war lose them.

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They are hereditary in the male line only, and brothers have equal rights; and they may be shared between them, if the shares do not by this partition become too small.

If a son marry away during the life of his father, he has no right to a part of the land, only of the moveables.

If a son be constantly engaged, out of the district, in civil or clerical employment, he cannot possess the fief on the death of his father, but must within three years dispose of it to one capable of rendering military service; but should the son be engaged as an officer, or as a priest or pastor within the district, then he can possess it, by keeping upon it those who can render the required service.

If a widow marry one who belongs to the military district without land, the husband possesses the fief to the exclusion of her children; and the children of this marriage inherit equal shares with those of the former marriage; but with regard to the moveables, they each share those of their natural parents.

A daughter likewise, if she have no brother, by forming a similar marriage may keep the fief.

If a widow have no children, she must marry; and if she marry one who already possesses a fief, she loses hers. If she cannot marry,

marry, she is free from service one year ; but then must get a person]
who can manage the fief and render the required service.

The clergy, without any respect to their religion, whether catholic or
not, have no dispensation from service ; but the church lands are free.

The officers are not paid for their service by fiefs, but receive pay
like those of the regular troops, though they have some gratuities be-
sides ; there are therefore no great feudatories : and here this govern-
ment essentially differs from ancient feudal governments.

The *Tschalkists* have a small district in the corner of land formed
by the junction of the Theis and the Danube. They derive this
name by serving on board of ships and boats. *Saika* is an Illyrian
word, and signifies a ship.

C H A P. VI.

FROM BUDE TO GYONGYES—MATRA MOUNTAINS AND THEIR
FOSSILS—ALUM WORKS—PSEUDO-VOLCANIC CRATER—CURI-
OUS PITCH STONE—VOLCANIC TUFFA.

THE hopes of finding an extinct volcano in the Matra, where Mr. Fichtel very boldly has asserted one to have been lately found, made me readily accept of an invitation from Baron Joseph Orcy, who has a very large farm and manufactory of alum amongst these mountains, to come and pass a day or two with him there; and the specimen of real volcanic *tuffa* which I had lately seen, heightened my ardour in the pursuit of this volcano, and made me leave my good and hospitable friends at Bude less reluctantly. But Hainotzy, honest Hainotzy, what sad misfortune has befallen you since our late convivial parties? It is not true that you conspired against the state, and, envious of your superiors, planned their destruction; nor, imbibing the deluding spirit of the times, through mistaken patriotism rebelled against your sovereign. Rather to some cabal, by which honest men in turbulent times do often fall, I shall attribute your disaster; for plots of old, I know, were formed against you, and believe that you did not forfeit, but unjustly lose your life. Then will I be your friend,

friend, and, when occasion offers, vindicate your memory, and scratch your name out of the list of the destroyers of public felicity.

On Saturday, June 8th, I set off for Gyongyes; I travelled through a level country, pretty well cultivated, the soil sandy. The only things I noticed in this day's journey were the seat of Prince Grassalcovitz and the town of Hatvan. The palace of the prince is a vast pile of building, but in a situation not very favourable. He keeps his guards like Prince Esterhazy. I observed a few trifling hop-grounds hereabouts. Hatvan is said formerly to have been a very considerable town; it is now a very paltry one. In the walls of the church I noticed the breccia, so often mentioned to be used for building; and I found loose fragments of the same in several places. In this district there are very large pasture grounds, which feed great numbers of horses, and storks are very common; they build upon the ridges of the roofs of the peasants' cottages. As I was detained a good while at Hatvan for horses, I did not arrive at Gyongyes before it was dark: here I found a tolerable good inn, which was the more acceptable as I had scarce had any thing to eat since I left Bude.

As soon as I looked about me the next morning, I found I was at the foot of the hills or mountains of Matra; and seeing nothing used for building but the breccia, I was very anxious to examine them. Immediately after breakfast I ascended that branch
which

which lies immediately above the town. I walked for a long time through nothing but vineyards, which extended above half way up the hill; here I found only small loose fragments, and now and then large blocks of this breccia*: higher up I found it forming firm rocks. In other parts nothing but the decomposed Porphyry or *Saxum metalliferum* was to be seen. The solid rock was too seldom laid bare to enable me to say which of these two kinds of rocks forms the greatest part of the hill, and, what is of more importance, what is their relative situation to one another: as far as my few observations extend, the breccia is the most general. Yet this may only be a superficial covering to the porphyry.

Near the top I had the good fortune to find a great deal of *Müller-glass*, or Lava glass, *Olivinus vitreus*. It covered one side of several small loose blocks of a porous kind of Porphyry †, such as would be called by the volcanists porphyritic lava. These blocks in some places were piled one upon another to form a wall or fence. I detached some most beautiful specimens, much superior to any I have seen from the neighbourhood of Frankfort. This fossil, in my opinion, has been sadly mistaken, and geognostic theories are

* Ex fragmentis mediocribus & minoribus argillæ induratae fuscæ omnino terram coctam referentis, angulis integris, & porphyrii cellulosi fusci ope massæ heterogeniæ terreæ griseo-rubescens, conglutinatis.

† Porphyrius

Fuscus aut nigricans cellulosus, cellulis parvis; ex basalte feldspato albido diaphano infarcto.

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in part the cause of the error. The *Vulcanists* having ranged it amongst the productions of fire, consider it as a melted body, as a volcanic glass; and their antagonists the *Neptunists* consider it as a Calcedony. Mr. Born, speaking of that found near Francfort, though he acknowledges the stone to which it adheres to be volcanic, says, "*On la nomme improprement verre volcanique.*" Mr. Suckow, in his excellent Compendium of Mineralogy, places it amongst the volcanic glasses. Professor Blumenbach places it in his Compendium of Natural History likewise under the head of Volcanic glasses, and adds that it is probably formed from melted zeolite. The learned Professor Gmelin in his edition of the Syst. Nat. places it under the genus *Olivinus*, and calls it *Olivinus vitreus*. Mr. Stütz in his Catalogue of the Imperial Collection, who has very judiciously excluded, in the classification of Fossils, the consideration of the means of their formation, and has consequently suppressed the class, order, &c. of volcanic productions, has placed it with the *Obsidian*. Mr. Widenmann thinks it may be classed with the Calcedony, and quotes Mr. Links' analysis, which he however acknowledges to differ very much from the analysis of the Calcedony; but never mentions Mr. Gerhard's analysis, which approaches much nearer. Mr. Kirwan, in the late edition of his Mineralogy, following, as he says, Mr. Werner, has called it *Hyalite*. But he has erred I imagine in considering, with Mr. Widenmann, Mr. Links' analysis and his characters of "being found in Basalt, or Trap, either in grains or in masses inclining to a rhomboidal form, or in filaments," to belong to this

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Fossil.

Fossil. These characters and the analysis I would rather suppose to belong to a transparent *Feldspar* or *Adularia* found in some kinds of Basalt or Trap. The component parts as given in this analysis, ought to form a very fusible body ; but Mr. Kirwan acknowledges it to be infusible at 150 deg. My opinion is, that those who have considered it to be a Calcedony have come nearest the truth ; without venturing, however, to make any objection to the denomination and opinion of Mr. Werner, of which I know nothing, but through Mr. Kirwan's Mineralogy. But my specimens induce me to place it where no one yet has referred it, that is, with the Quartz ; as it has not the fracture and transparency of Calcedony, but of Rock Crystal ; and the analysis of Mr. Gerhard, in Crel's Chemical Annals*, which shows it to contain only a fiftieth part of Argill, agrees with this classification : these are likewise the component parts of an infusible body : I therefore shall denominate it *Quartzum tuberculatum*†. The effects of fire on this curious fossil are very remarkable and interesting ; it destroys its transparency, and makes it fragile, but gives it a beautiful white pearly lustre ; and in this state it is plainly seen to be composed of many intensely thin beds covering one another, as in stalagmitical fossils. Are not these successive layers an argument against its being a melted mass, a volcanic production ?

* For 1785, i. p. 57.

† *Quartzum tuberculatum*.

Hyalinum, superficiebus tuberculosa tuberculis confluentibus, incrustans.

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I could have spent many hours with pleasure on these hills; they afford fine extensive views, and are rich in vegetable productions and insects; but I had fixed my departure for Paräd immediately after dinner, and was therefore obliged to hasten down.

As the road to Paräd was over and amongst high hills, the Judge insisted, on bringing my horses, that I should pay for a double stage. As this is not customary, and I had reason to believe he meant to pocket the extra pay, and not to give it to the peasant my driver, I refused, and after I had abused him pretty freely he submitted. I fined him his dram. I had taken the precaution at Bude to provide myself with a *forespan* privilege, as I knew I should often be obliged to travel roads, where post-horses and such means of travelling were not to be had. This was like that I obtained at Edinburgh, only it was in force through a greater extent of country, I think through two or three counties, and consequently a greater favour to obtain.

About two miles from Gyongyes, and not far from the road side, is the quarry from whence most of the stone which is used for the buildings of that town is taken. Some of the fragments of Porphyry are so cellular as to be quite a Scoria, but the Feldspar is still visible. A little further there are rocks of reddish brown Porphyry *. Soon after I en-

* Porphyrius

Ex Jaspide hepatica parum et exilliter cellulosa, particulis parvis albo-rubentibus Feldspati infarcta.

tered the Matra, a chain of mountains about forty miles in extent. I travelled up-hill and down-hill, on the most abominable road, for four or five hours, till I reached Parád. I thought often my cart, for this was my vehicle, must have been broken in pieces. The rocks were composed of Porphyry, nearly similar to that I just mentioned, which is the kind that the Volcanists call porphyritic lava; and in one place I saw some coarse grained red sandstone. The hills were well covered with wood, principally with oaks, no firs. I received a hearty welcome from the Baron, and I spent two or three days with him in going over his estate and seeing his improvements. Hungary has few more active and intelligent oconomists than this nobleman, and few better patriots. Though his own landed property is very great, he has taken a lease of this estate from Prince Grassalcovitz, which, as may be supposed by the annual rent, is very extensive: the Baron pays 3,500l. a year.

The Alum Work which he has established, employs twenty or thirty hands. The alum is made from Iron Pyrites, which is dispersed through a decomposed Argillaceous Porphyry, or *Sakum metalliferum*, of which most of the rocks on this estate are composed. This is detached by gunpowder, then broken in pieces and laid in heaps in the open air to decompose: this takes place in the space of two or three months; then it is roasted; this operation lasts about a month: afterwards it is thrown into large wooden receivers with double bottoms, filled with water, which have spickets in the lower division to let off the impregnated water, which, after it is sufficiently strong

strong by remaining on fresh materials, is conveyed into leaden boilers to be evaporated, and from thence into the vessels, where it precipitates its iron, and afterwards it is crystallized. There is a similar, but smaller manufactory in the neighbourhood, belonging to a company.

With a view to turn the woods which are on this estate to some account, and there is not a sufficient demand for timber, the Baron has erected a glass-house upon it, as in Sweden iron forges are often established on estates, usefully to apply the produce of its forests: from this he clears about three hundred a-year. Coarse common glass is only made, which is blown chiefly into drinking-glasses, bottles, and window-glass.

The Baron has tried his fortune in mining, but he has not been successful: this is nothing uncommon. The vein is in a rock of *Saxum metalliferum*, and contains grey copper ore. There is likewise a spring of acidulous water on this estate, which, were it in a more populous country, would be a source of great revenue. I think I never saw a finer spring, not so much in regard to its quantity, as its quality.

He took me one day to see a natural curiosity, called the *Devil's Wall*. This I found to be nothing more than what is known in Scotland, where they are very common in some parts, under the name of
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Whin Dykes. I only saw it where it crosses a ravine ; here it forms a *façade* of thirty feet or more in height. I was told that it extends several miles over the hills, but here it is much lower : on the back it is no ways remarkable. It owes its height, no doubt, to the washing away of the rocks through which it runs. It is composed of a Porphyritic Basaltes, a basalt in which the feldspar ? is hardly distinguishable from the base, and is chiefly noticed by its shining. I found many loose blocks which approached nearer to Porphyry.

The *Lucanus Cervus* and *Cerambyx Heros* are very common in these oak woods : this was the season of their amours. A male of the small variety of the first mentioned insect I found fulfilling the peremptory, yet pleasing command of Heaven, with a female of the ordinary size. As I was returning one afternoon on horseback with the Baron to Gyongyes over the Matra, a wolf crossed the road twice with great boldness, within forty yards of us ; we halted till our servants, who had our guns, came up with us, but he did not make his appearance a third time : it was conjectured that he was after some young folds.

Near the road, and in the highest part of these hills, the pretended Crater of Mr. Fichtel, who has given a detailed account of it in the Memoirs of a Society of Naturalists at Berlin, is found. He announces the discovery with such certainty, that one might have expected, if not to see the flame and smoke, to find it still warm enough to toast cheese, or to broil a beef-steak. I was all expectation ; for

though the present non-existence of craters by no means proves the non-existence of volcanoes in former times ; yet the present existence of one, one that could not be disputed from its similarity with the craters of indisputable volcanic countries, would be, to the most violent *Neptunist*, a sufficient proof : but this one may, I think, be objected to on sufficient grounds. It is not in a conical hill with a reversed conical cavity in the middle, as all those hills necessarily are which are formed by the ejection of loose fragments ; but it is a vast cavity, whose sides are composed of firm and solid rock. It is of an irregular oblong shape, and has a communication on one side, and in the direction of its greatest diameter, with an inferior valley : here the *Volcanists* say this side of the crater has fallen down, and is now only occupied by a current of lava. But I think it may with equal propriety be affirmed, that this communication is only the usual communication of one valley with another, and that the pretended current of lava is but the ruins of the rocks above ; and, had they not fallen, and in part blocked up this communication, there would have been little more reason for supposing this to be a crater, than many short deep valleys which are to be found in every chain of mountains. This valley, or crater, or whatever else it may be, is about half a mile in circumference, and in depth twice the height of an oak tree : at bottom it has several deep holes : in one there was still ice, though this was the 11th day of June. The whole is so overgrown with wood, that it is very difficult to form a just idea of the *ensemble* of it. No conjecture of a volcano's former existence in these hills will be confirmed,

firmed, I think, by the inspection of *this crater* ; but Mr. Fichtel has greatly the advantage over me in boldly deciding on the subject, as he never saw it, and only obtained his account from a man who never trod the *Campi Phlegræi*, and from one who knew he was fond of volcanoes. But, as I have said, though the existence of a crater proves the former existence of a volcano, its non-existence proves nothing : they are of all volcanic remains the most easily destroyed ; they are grand and decisive testimonies when found, but, like the stately pile, easily destroyed in the revolutions of Nature ; whilst the more humble Pumex, like medals, however tost about, and to whatever remote corner of the globe it is transported, bears upon it still the marks of its origin.

When I returned to Gyongyes I took up my quarters with the Baron : he has, like most Hungarian Magnates, a great profusion of Hungarian dresses, arms, and smoking pipes, and a very fine orangery.

The *Mus Cricetus*, or German Marmot, which is generally said to collect, in summer, provision for the winter, and then to hybernate, the Baron assured me, frequents throughout the winter his barns, and does him a great deal of mischief. To avoid a mistake, I desired to see a skin of one, and I was shown a cloak entirely lined with them.

The price of labour here is, for men employed in the vineyards, when the days are short, about five-pence, and at this time of the year
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seven-pence. The common working men in the alum manufactory likewise received seven-pence a-day. They all find themselves; but the vine-dressers generally receive a dram and a bit of bread at the end of the day's work, gratis.

From hence I continued my route to Erlau, but accompanied the Baron to Compot, another estate he leases from Prince Graffalcovitz. On this farm he keeps a good many buffaloes. Their milk and butter are more esteemed here than those of cows, and they are said to give a greater quantity; yet the butter which I partook of was poor and white. But the bad quality of the butter and cheese of most countries in Europe arises more from the bad management of the dairy, than from any defect in the cattle or their pastures; and the produce of the dairy is in little esteem in all this part of the continent. The flesh of the young buffaloes is preferred to veal. I saw two about a fortnight old; they were as well covered with hair as our common calves, though when grown up they are almost bare. The granaries and cellars of this nobleman were very large and well stocked. Some of the tubs of wine, though not so big as the famed one of Heidelberg, were, I think, big enough to drown a dozen, or even a score, of full-grown and full-fed Aldermen in.

After dinner I took leave of my hospitable friend, and continued my route to Erlau; and he at the same time set off to see another estate. Through some intrigue, this nobleman fell into disgrace

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with the Emperor Leopold, who deprived him of the high post of lord lieutenant of a county which he then filled. When he gave in his resignation, he openly, but respectfully, told his sovereign, that if he stood in no need of his services, he stood in no need of his honours. His present majesty, knowing his worth, promised to give him another lord lieutenancy if he ever should become sovereign. He kept his word, and, soon after his ascent to the throne, made him lord lieutenant of the county of Zemplin. This is merely, as most charges in Hungary are, a post of honour, not of emolument. The usual salary is about a hundred a year, which is not sufficient to defray the expences of the entertainments, &c. given by him at the county meetings.

Near Compot is Débrew, famous for its tobacco. This generally sells 12 or 15 per cent. higher than any other Hungarian tobacco. The country from Gyongyes to Compot is well cultivated, and in corn land; and from thence to Erlau, corn land intermixed with woods. The leaves of the trees in this district were so destroyed by caterpillars, that they seemed as though they had not yet shot them out.

Two or three miles on this side of Erlau, the roads are mended with a very remarkable fossil. It is a *Pitch-stone* (*Pechstein*) quite like *Gneis* in its appearance, being composed of short streaks, or interrupted layers of black and white. Both of these are *Pitch-stone*, and readily
intumesce

intumesce under the blow-pipe, and form a white scoria, as I have found some of the black Scotch *Pitch-stones* to do. It contains a few hexangular spangles of black Mica, and a few grains of *Adularia* or transparent Feldspar.

This probably is the very fossil which induced Mr. Gerhard, who has been followed by Mr. Kirwan, to say, as a proof of the *Neptunic* origin of the *Obsidian*, that it is found in *Gneis*, &c. But as all is not gold that glitters, so all is not *Gneis* which is streaked black and white. But Mr. Fichtel, whose *burning ardour* in mineralogy is well known, leaves all others far behind. When I returned from Hungary to Vienna, I gave this excellent man a specimen of this very fossil: and, not without reason, I was very much surprised a few months after to read in his *Mineralog. Aufs.* page 314, the following account of it:

“ The second example of *Granit altered by volcanic fire* is near Erlau, in the neighbourhood of the *old Volcano Matra*, where *Granit, more or less burnt*, is used for repairing the road. The *Quartz* has its granulated shape changed into an amorphous *melted mass*. The black glimmer is in *part become hexangular*, and part has assumed a *melted* amorphous appearance; but the *Feldspar* has *not suffered*, no part is zeolitic; therefore this *burnt Granit* still belongs to its kind.” Into what strange errors do not theories often lead the best of men! The *Quartz* is changed into a fusible *Pitch-stone*, the *Mica* is in part

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crystallized,

crystallized, and in part turned into Pitch-stone, and the *Feldspar* remains *unaltered!!!* *Me Hercule*——No—I will rather be a plodding relater of facts through life, than give to the mineralogical world such *heated effusions of an inflamed fancy* for explanations. I saw the rock from whence this curious fossil was detached, as it was by the road side; but I could observe nothing more than that it formed a bed.

Just on entering Erlau, on both sides of the road there is nothing but volcanic *Tufa* *. On the right it forms a bank forty or fifty feet high: it contains a great deal of *pumex*. From the bank on the left hand I detached pieces as big as a man's head; more evident volcanic *Tufa* I never saw, not even in the *Campi Phlegrei*: some of the *pumex* is so little decomposed, that it might almost be used for technical purposes: it has retained its silky appearance, and swims on immersion in water; though after it has imbibed this fluid it sinks.

* *Cœmentum Tufa.*

Ex fragmentis mediocribus & minoribus Pumicis albi fibrosi, interdumque cinerei tumque magis vitrei, in massa dilute griseo-flavescente heterogenia terrea friabili aspera.

C H A P.

C H A P. VII.

FÉLCHO-TARKAN—BISHOP OF ERLAU—HUNGARIAN INNS—
UNIVERSITY.

MY first concern on my arrival at Erlau, was to investigate further the volcanic appearances I had observed on entering this city. The common calcareous *Tophus* (*Tophus communis*) is very general. On this the fortress is built, and under this lies the volcanic *Tufa*; for the cellars of a wax-chandler, which are under the fortress, are formed in the volcanic *Tufa*.

I made an excursion to a hill at the back of the town, but I found only lime-stone with petrifications. The hills here are almost to the top covered with vines, and where these fail, the *Rhus Cotinus* grows in abundance; this is used in the preparation of leather, and some of it is sent to Debretzin. About Félcho-Tarkan, which is a few miles further, pretty good Marble is quarried, a black, a breccia, and a grey. The latter, which I saw, is not stratified, and contains no petrifications; it is the compact kind. Further back in the hills, Slate (*Ardesia tegularis*) is found.

Félcho-Tarkan is a pretty, romantic, and retired situation, with
murmuring.

murmuring streams and mossy banks, and craggy rocks, and gloomy woods, and verdant groves: a select abode for Fauns and Silens, and Fairies, and Druids, and Hermits, and Lovers, and Botanists. Here the late bishop, a man of taste, built an elegant villa, where he often used to retire, more for amusement it is said than for prayer. The gloomy, bigoted *temperament* of the present bishop prevents him from enjoying the beauties of nature, even of the more serious kind. On his coming to the See, like a Visigoth, he attacked this beautiful retirement, and has so completely destroyed it, that the place of its existence is no longer known, and the plough and the harrow, in contemptuous triumph, traverse its site, and now insult this spot, once the residence of taste and elegance.

Near the town there is a fine hot spring, which is used for bathing: the accommodations are very bad, for it belongs to the bishop. The water where I immersed my thermometer was 24 degrees above 0 of Reaumur, the river was then only 13. Frogs, I was told, do not hibernate here during winter. I was shown a *Snailery*, which the proprietor informed me was constructed upon an improved plan. No doubt it would have been called in our island a *Patent* or *Philosophical Snailery*, or *Snail-Sty*. It was nothing more than a large hole dug in the ground, about two or three feet deep, with a wooden house as a cover. The food of these animals is the refuse of the garden, which is thrown into the hole.

From frogs and snails I am *naturally* led back, not to that godlike generous creature—man, but to my—bishop; of whom, should he fall into the hands of the celebrated Cosmus Necrotomus, the same report will certainly be made, which has already appeared of some monks that he dissected; in whom he says he found the “*Vesica biliaria seu folliculus felle major quam in homine* ;” yet the heart, that part to which we attribute all our noble and generous actions, either altogether absent, or small, or distorted, or cartilaginous. This excellent anatomist, whose name and learned writings are, I am assured, known but to a few of my countrymen, expresses himself thus: “*In quodam monachi Latrappii cadavere cor plane nullum deprehendi. E monacho hispano, sacri olim tribunalis, quod in hæreticam pravitatem inquiri, officiali, cor pilosum & hirsutum extraxi, quod in latronibus quibusdam se quoque vidisse testatur Benivenius & Muretus. Cartilagineum cor autem, quale in sceletro quodam observavit Riolanus, in monacho, sacræ inquisitionis apud nos præside, vidi. Cæterum, in omnibus monachis cor minoris est voluminis quam in homine.*”

Why, thinks the reader, so much rancour at the bishop?—When I travel through a country not favoured like Hungary with a warm sun and a rich soil, I can without repining make a shift with *whisky*, or even with water; but not to be able to enjoy what bountiful Nature has spread for the good of mankind with a liberal hand, always galls me much. The wine of Erlau is justly famed, and, when good, it is little inferior to Burgundy. I had long flattered myself with the
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hope of drinking here a bottle of the best; and immediately on my arrival I ordered some. The waiter told me I should have *bischofliche* wine. This raised still higher my expectation, for I thought he meant wine fit for a bishop to drink; and I eagerly tasted what he brought me, but was surprised to find it as bad as that of Bogdon. I scolded the waiter; he looked gloomy, and told me, shrugging up his shoulders, that it was *bischofliche* wine; but the poor man only meant to inform me that it was the bishop's wine, and that he had only the vending of it. I then sent my servant about the town to see if he could not procure me a bottle or two, but it was all in vain; the bishop possessing the exclusive right of retailing wine. So I was, till I had made the acquaintance of Dr. D——, obliged to drink this vile stuff in a country producing the best: it gave me the colic, which I naturally attribute to the bishop, and I must retaliate the injury.

The inns in Hungary, as in some other countries, are on a quite different system from ours. They belong either to the corporations of towns, or to the proprietors of the towns and villages, who draw from them a great revenue by letting them out on the condition of the innkeeper taking their wine and beer; or they give him a fixed salary for his trouble, and receive all the profits. In either of these cases the innkeeper has little merit or demerit arising from the quality of his wine: indeed, where there are two sorts, he may give his customers the inferior kind, and charge the price of the best, and he may lower the quality. This indeed may make bad wine still worse, but
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can never make bad wine good. From these monopolies it arises, that in Hungary, a country famous for its wine, the traveller can never get a glass of good wine but in private houses; and for the vile stuff he drinks in the inns he is charged nearly as high as he is at Vienna for a good wholesome wine, though there it pays a tax. I was always against monopolies, but now more than ever: I had here a striking proof of their bad tendency.

How *bizarre* is the human character! Will it be credited that the man who exacts his rights with so much severity, as to make himself considered by his flock, not as a father and protector, but as a hard, severe and unjust master, and to alienate the friendship and esteem of every one, except of a few churchmen raised by himself, whom he selects from the lower ranks, not out of charity, but that they may be more dependant upon him—that he should have erected a public edifice which would be an honour to a crowned head!

The university, a very fine building, was erected entirely at his expense. It is said * to have cost him, including its furniture, 200,000 pounds. The world must not be so uncharitable as to suppose that he has gained this immense sum solely by the monopoly of wine; nor entertain so high an opinion of his virtues, as to think that Heaven, in answer to his prayers, supplied him by miracles with it. No: he is an Esterhazy,

* Korabinsky's Lexicon, art. Erlau.

and his family estate is about ten thousand a-year; and the see of Erlau was always considered as one of the richest in the kingdom, so that a few centuries ago the sovereigns of Hungary, on account of its immense revenues, ordered that their fourth sons should be maintained from it: and the quota of troops from this bishopric, in an *insurrectio*, is the same as that of the primate, the archbishop of Gran. Its revenue is estimated at twenty thousand sterling a year. Twenty thousand and ten thousand make thirty thousand; and on this a single man, I think, may live; though I believe he only vegetates. His countrymen do not know what to make of him; some consider him as a great bigot, others as a knave, and some as a mixture of both. He is a bitter enemy to the protestants. I would not believe it till I heard it from many, and in different places, that he carries his zeal so far as to buy people over to his own religion. If any of the protestant nobility are poor, and will change their religion, he settles on them a pension according to the influence of their families. These bribes are said to amount to six or seven thousand a year. *Relata refero.*

But to return to the university. Whether this was founded with the benevolent design of serving as a nursery for the mind, where youth might be taught how to attain their own happiness and forward that of society, and where budding genius might be fostered, and directed to objects worthy of its pursuit; or whether with the sinister design of increasing the demand for its founder's monopolized wines, by a greater population, as some think; it is no less a princely building, and has all the

the requisites for a university. The professors are well accommodated, the lecturing-rooms are very good, and the chapel, library, and the hall for the public disputations and for conferring academic honours, very elegant. The painted ceilings of the two last are, in my opinion, very fine. That of the library represents the Council of Trent, where the bishop has shown his uncharitable bigotry by bringing down from heaven lightning to strike the heretical writings. On that of the hall, the Sciences are allegorically represented. They have both an admirable effect, and are far beyond many I have seen of great fame: I think they are superior to any I saw in Italy. The painter was a native of Hungary, and had studied at Vienna: he is since dead. The university is provided with an observatory, and the instruments are from London. A quadrant alone cost fifteen hundred guineas. How common it is for men to be scrupulously exact in the performance of religious trifles, and yet to be negligent in the discharge of important moral obligations! Will it be believed that the man who had nearly been prosecuted by the crown for severities shewn to his peasants, should have had scruples about the propriety of buying these instruments in England, because we are heretics? Yes, I was told that he went so far as to send to Rome to know what he ought to do.—*Relata refero—Si non e vero e ben trovato.*

A museum of natural curiosities was begun to be formed, and many Hungarian birds neatly stuffed were collected; but the negligence of the overseers, and the unremitting diligence of the *Dermestes*

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Iardarius & pello, with the *Ptini*, &c. have now nearly reduced the whole into ruins. The Emperor Joseph, who could not like such a man, never seconded the views of the bishop, and this establishment is at present little more than a college for the clergy.

I walked through the episcopal palace; it was poorly furnished, and destitute of every mark of social comfort; and chilling gloom and mournful silence reigned throughout.

Though I had letters of introduction to the bishop from some great men, I could not see him; sickness was assigned as an excuse: but he sent me by his physician, Doctor Dosler, to whom I am indebted for many civilities, an invitation to dinner. I accepted of the invitation under the expectation of seeing him, but he dined by himself; and one or two of his canons, and two or three gloomy priests, and my friend the Doctor, were the only company. He had some very fine carriage-horses in his stables. These were the only cheerful beings I saw about the palace: they were from his own stud.

There is nothing in Erlau to detain a stranger, it is in general ill built; almost the only good houses I noticed were those of the canons. Here is a Turkish tower in very good condition. In the town wax is bleached, and not far from it Cordovan leather is prepared: red, yellow and black are made; the two first kinds are chiefly used for women's boots, but their colours do not stand.

C H A P. VIII.

SALT-PETRE MANUFACTORIES—BISHOP OF ERLAU'S STUD AND
DAIRY—SALT MAGAZINE—FURED—GREAT PUSZTA—
STRANGE ACCIDENT.

I WILLINGLY left Erlau: but instead of going immediately to Tokay, now only distant a short day's journey, which was my original plan, I was advised to alter my course, and visit that part of Hungary which lies on the other side of the Theis, as this is the rudest part of the kingdom, where I could best see the uncontaminated Hungarians. Accordingly, leaving the hills, I directed my course towards the great plain. As the county engineer and the bishop's steward were going in the same direction, I thought it convenient to accompany them.

On Sunday, June 16th, in the afternoon, I set off, and travelled through a flat country, with corn and pasture lands, and here and there a village. I passed one or two small saltpetre manufactories; the soil of the floors, &c. of the peasants' cottages is chiefly used. In these manufactories the process is carried no farther than the first crystallization,

zation, saltpetre being a monopoly belonging to government ; and in this state it must be delivered to the receivers of the crown at a price fixed by them, who purify it, and make it a marketable commodity. Storks were very common : they had now young ones, for which they shewed their affection by their restlessness on the approach of strangers. I observed in many places great heaps of dung, some of which seemed to have remained there for a great length of time : it was thrown there *only to get rid of it ; for in many parts of Hungary the land is never manured*. It is even said by the *Committee of Agriculture, that manure is not used in the greatest part of Hungary*. If you ask the true *Magyars* why, they say *their* soil is too rich. Nevertheless they let it rest every third year ; this is rather contradictory. Agriculture in this kingdom is in its most simple state. In about four hours we reached Hedwig, where we intended to pass the night.

This is a *puszta* which belongs to the misanthropic bishop I have said so much of. Here is his stud, and the groom was our host, as his house was the only one here. He has seven stallions, and a proportionable number of brood mares under his care : the stallions were of the largest breed, and very fine ; one was from England, and the rest out of the best horse countries of Germany, but not a single Hungarian. I think, when writers have spoken in high terms of the Hungarian horses, it has arisen by confounding them with the Hungarian *horse* or cavalry. The Hungarian breed of horses is very small ;

small; and in all the studs I have seen, the stallions, and often the brood mares, are brought from other countries; and the horses used by the more opulent Hungarians are either from foreign countries or of foreign extraction. All the walls or fences of the folds and inclosures were made by piling up the *useless* dung. The groom was a German, and the stud was conducted after the German manner; the stallions were kept in their stalls, and the foals at six months were separated from their mothers.

About half a mile further is the bishop's dairy, consisting of about seventy or eighty cows. The stalls are the finest I ever saw; they form one continued building of three hundred feet in length; in the middle there are two rows of stalls for the cows, and on each side are the stalls for the calves. The dairy itself was remarkably shabby and dirty. The bishop farms this out nearly in the manner that Count Festitich does his sheep. Every thing belongs to the bishop; and he gives the produce of the cows on the conditions of receiving annually for each cow, thirty pounds of butter and three shillings instead of milk: all the calves belong to the bishop; the pastures are his; and in the winter he provides straw for the cattle, but no hay.

In the morning we continued our route to Poroslo, on the banks of the Theis; this was only about an hour's ride. Here are the salt magazines for landing and depositing the rock-salt which comes from the county of Marmarus; it is brought down the river on floats of pine trees, on which it is piled up like bricks, in great pieces of

fifty pounds to a hundred weight. In wet weather there is a considerable *deficit*. The quantity annually landed here is very great ; last year it amounted to 118,000 cwt. : but this is not the only place of debarkation. The quantity of salt annually dug from the mines in the county of Marmarus is estimated in the Hungarian Magazine at 600,000 cwt. From hence it is sent to the royal magazines in the towns, where it is sold to the public. A great many carts were waiting for loading on this business: two-pence halfpenny per cwt. is given for carting it to Erlau, and seven-pence halfpenny to Pest. The Marmarus salt, which lies on this side of the Carpathian chain, is like that of Wielitzka on the other side ; it is of a sparry texture, and must, without doubt, form great beds, as it does at Wielitzka. As the floats are here broken up and sold, Poroslo is likewise a depository of wood ; one of the finest pines sells for about three shillings.

At the village we found an inn, whose external appearance was indicative of possessing something within more than tables and stools : but it was deceitful ; the sight of the pantry was dreadfully alarming ; it presented us with an awful absence of every kind of life-supporting object. As I had a letter of introduction to Mr. Zombati, a nobleman and farmer, we went and levied a dinner upon him : he gave us some excellent Erlau, little inferior to Burgundy wine. After dinner my companions returned to Erlau, and I crossed the Theis, the greatest river of the kingdom after the Danube, and went to Fured.

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As I did not come into this part of Hungary to see elegant buildings, perfected arts, and high polished manners, but rough men and their rude contrivances, I was satisfied. Fured is a town, or large village, of five or six hundred houses; these consist only of the ground-floor; they are thatched with reeds, and placed without any order. The town is seated by the side of a fen, which at the overflowings of the Theis, which often happen, becomes an immense lake. The inhabitants are graziers and farmers. I dined with one who was a nobleman, who had near two thousand sheep, and five or six hundred head of cattle. Some of the sheep were of the common kind, or, as they are here called, of the German breed; but the greater part were of the Hungarian breed (*Ovis Strepsiceros*), whose long erect spiral horns, and long hairy fleeces, give them a singular appearance. This place is famous for Hungarian saddles. I was badly off for a means of communication, and I could not stir without my servant, the Hungarian language being alone spoken here. The surgeon was, I believe, the only person in the town who spoke German. As this town lies in the road to Debretzin, one of the most populous towns of the kingdom, and noted for its great and well-attended fairs, I expected to have found an inn, but I was obliged to go to the town-house*. Here I got a little dirty room

* As the public houses, if there are any, in the villages and small towns, are very bad, these are often provided with a small building or a room to transact public business in, and to accommodate those who travel in the service of the public. This was one of them.

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with a straw-bed, and I sent out for my victuals, of which there were none to be had, except eggs and sheep's butter; this was à l'*Espagnole*.

The common people of Hungary make little use of inns. I have often seen them at night halt in great parties like caravans, in the neighbourhood of a town, and pass the night in the open air. Some watch the horses which are turned out to pasture, whilst the others rest; and I have frequently, when I have been a guest at a nobleman's seat, observed, however roomy his house might be, if I walked out very early in the morning, the men-servants of the family sleeping in their clothes in the court, on benches, tables, &c. and when I have been obliged to take up my night quarters in a peasant's cottage, I have often seen the husband sneak off at bed-time, and leave his wife, to go and sleep under a shed or in a hay-loft, to be cooler, and freer from fleas: so that I have often had the finest opportunities of having a *tête-à-tête* with some of the ——— ugliest women in Christendom. And the opulent are not so nice on the article of sleeping as we are. One married gentleman I knew who always slept on a kind of sofa, between two dressed deer-skins, only taking off his coat and boots. Most of them sleep in their drawers, and many in their waistcoats.

The fens abound with water-fowl, and I dare say with many rare ones. I went out with my gun, but was not successful. I had no
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time to spare, and the weather was very rainy and boisterous. Herons are very common, and feed with the storks in the fens, but none of them have *yet* learnt from the stork, from a *principle of imitation*, to build their nests upon the peasants' cottages. It is common at Fured to keep corn in subterranean cells, as in several other parts of Europe.

Not being fond of the famed golden age, which, unadorned by the fictions of poets, is but the poor uncultivated state of man, I had soon enough of this place; for the famed cottage, emblem of contentment and innocency, neither harbours under its humble roof greater happiness or more virtue than what is found within the accused stately mansion, supposed abode of gnawing care and anxious inquietude. Here man ought to be happy, there he might be happy: but this so little depends on these things, or rather on so many apparently more trifling ones, that the difference is not so great. Yet happy I think is the man who possesses a cultivated mind, and enjoys the elegancies of life! Twenty-four hours therefore at Fured were enough for me, and I then set out for Debretzin.

All the country lying between these two towns is a *puszta*. There is not a single village in the whole journey, though the distance is fifty miles; only about half way there is a tolerably good inn: now and then at a great distance I saw a solitary spire: all is an immense and boundless waste. It is part of the great plain I lately mentioned.

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But though it is only sown here and there with corn, yet it is not lost; it feeds immense quantities of cattle. Their hardy keepers stay out with them, covered with their rough sheep-skin clothing, weeks together. It is chiefly amongst these herdsmen that the custom of besmearing their shirts with hog's lard, and the fat of bacon, with a view to cleanliness, prevails. Thus anointed they can wear them a whole summer without washing, and it is said by this means they are kept free from those creatures "whose hourly food is human gore." Ought we not to consider this as a proof of the greater sensibility of the *Pulex irritans*, *Pediculus humanus* & *pubis*, than of man—or at least of these men?

Some large birds of prey were very common on this waste; in one place I saw fifteen together. I suppose they were vultures: they are at times so bold as to dispute a carcase with the herdsman's dogs. My driver assured me, that, a few days before, a herdsman had killed one with his stick, which had driven away his dogs that were feeding on a dead ox. In some places this waste is marshy: here water-fowl abound. I shot from my carriage a *Glareolus austriacus*. These birds were very common, and no ways shy. The immensity of this plain, its birds of prey, its herds of cattle, and their rough keepers, form a scene somewhat exotic.

Soon after setting out, a hare crossed the road. I perceived my servant shake his head, and mutter something in a sullen manner. I asked

asked him the cause of this. He said, he was sure a misfortune would happen to some of us, as a hare crossing the road was an ill omen ; and he himself had seen the vulgar opinion justified by misfortunes happening after such an occurrence. As the greatest misfortune I had ever met with in my travels was a bad meal, or, what was worse, no meal at all, to which I was now pretty well inured, I was not much alarmed ; though I could not help saying, that I should much rather have seen the evil omen on the spit, and still more on the table weltering in its gore represented by currant jelly. Yet, strange to tell, soon the omended misfortune happened. The weather was remarkably windy and boisterous the whole day. When we arrived at the half-way-house, the expounder of omens opened the great folding-doors of the barn to let my carriage in ; but a violent squall of wind came and blew them to, and caught his fingers between them, and his foot underneath, and in this situation he remained till I could get to his assistance. My driver calmly looked on, and rather smiled on seeing the tips of his fingers peeping out between the doors : he never offered to go to his assistance. Should twenty such omens in future remain unaccomplished, this will never, I dare say, prevent the fears of this man on the occurring of such appearances. I do not know whether this superstition exists with us : but it is very ancient ; it is mentioned in a very old Latin treatise called *Lagographia*.

C. H. A. P. IX.

DEBRETZIN—UNIVERSITY—NATRON—SOAP—BREAD—GUBA—
SALTPETRE MANUFACTORY—HORNED CATTLE—COURT OF
JUSTICE.

TO what circumstance Debretzin owes its existence I don't know ; nor can I divine what can have induced thirty thousand people to select a country destitute of springs, rivers, building materials, fuel, and the heart-cheering vine, for their residence. Debretzin, though it has the title and privileges of a town, must be considered as a village ; and then it is perhaps the greatest village in Europe. But should it be considered as a town, it is one of the worst, though its inhabitants are not the poorest. It is surrounded with a hedge, and the town-gates are like our field-gates, and stuck with thorns and brambles. The houses, with only a few exceptions, consist merely of the ground-floor ; they are thatched, and have the gable-end turned toward the street : these are not paved ; but, in a few of the most frequented, barks are laid down in the middle for the *Pietons*.

By far the greatest part of the inhabitants are Calvinists : their gloomy manners and dress, together with the gloomy weather that happened

happened during my stay here, made this altogether a dismal place. The principal college of this sect in the kingdom is here. The building is irregular, old and decaying; much resembling one of our alms-houses, when on the point of being taken down and sold for old materials: yet often in such dismal abodes, not only deep learning has been acquired, but genius has been taught to shine in works of fancy. The students are very numerous: the *Togati*, who alone are lodged in it, are about four hundred; these attend the lectures on the higher branches of learning: eight of them are packed together in one small room, but each has his separate bed. The younger scholars are near a thousand, but they only pass the hours of study here: these are six, three in the forenoon and three in the afternoon. As there are only four professors or teachers, nine of the *Togati* assist in teaching the younger scholars; for their trouble they receive a small *douceur* from the parents of those they teach: it is but a mean present, yet such as has in rude times formed the recompense of heroes: it is a—plate of victuals as an addition to their frugal repasts. The teachers receive a salary of about sixty pounds a year. I was invited by, I think, the head professor, to be present at the exercises of some of the *togati*. The one in which he chose they should exhibit before me was—psalm-singing: they were fine stout fellows, and roared lustily. The library was in unison with the rest of the establishment. I scarce saw any thing but classics, scholastic works, and musty books of divinity. It possessed two or three jaw-teeth of an elephant, and the head and horns of an elk. It is supposed they were

were found in the Theis. I would not so far deviate from common justice, as to relate, for anecdote sake, an ill-natured and false fact; but, if I am not much mistaken, it was here that a Course of History lasted so long, that after the professor had lectured *nine years, he was not advanced further than the middle ages.*"

Besides the college, Debretzin is famous for its soap manufactories, its bread, *Guba*, and pipes, and its quarterly fairs. These are the principal sources of the opulence of its inhabitants; but the vending of justice by the members of the *Districtual Court* must not be omitted in the accurate *Statistic* of the industry and sources of wealth of this town.

The soap is sent all over the kingdom, and even to foreign countries. It is made from natural Mineral Alkali or Natron; here called *Székő*. This is found as an efflorescence on a sandy soil in many parts of Hungary, but particularly about a lake near Kis-maria, which is but a few miles from Debretzin. It is not purified, nor does it undergo any alteration, but as it is scraped or brushed off the soil, it is used. The process of soap-boiling here is this:—The Natron is thrown into a large wooden vat sunk in the ground; upon this boiling water is poured; to this lixivium lime is added, and thus the lie is made, the sand and heterogeneous matter falling to the bottom. The other ingredient, fat, is melted as usual in a great copper-boiler very wide above; no *Axungia* is used. The lie is then added to the melted fat by pailfulls: as it boils up, the imperfect soap or mixture
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of fat and lie is ladled out into a neighbouring vat, and then fresh lie is added to what is in the boiler: now what was ladled out is put back again into the boiler: this is repeated several times. Whether this is only requisite on account of the relative smallness of the boilers or not, I dare not say, so much depends, in the common arts, on apparent trifles: towards the conclusion common salt is added by degrees. When the soap is sufficiently boiled, it is poured into parallelipedal wooden boxes or chests, lined on the inside with a strong linen cloth. The boxes are about a yard high, a yard long, and half a yard broad, and take to pieces. When the soap is quite cold, it is divided into four pieces, and then subdivided and laid by.

I gave myself a good deal of trouble to learn the proportions of the materials; but more from the ignorance of the boilers, than a desire of concealing their *myseries*, I could obtain no exact *formula*; it seemed all guess-work. The following proportions given me by two different boilers, do not materially disagree:

Fat	-	7 cwt.	Fat	-	9 cwt.
Impure Natron	8	kible	Impure Natron	9	kible
Quick Lime	1½	cwt.	Quick Lime	1½	kible
Common Salt above	1	cwt.	Common Salt	1	cwt.

The kible is a measure containing about 8656 cubic inches.

The soap is white, and remarkably light and spongy ; and some idea of the quantity fabricated may be formed from knowing that there are about seventy maffer boilers.

Lighter, whiter, and better flavoured bread than that made here I never ate ; nor did I ever see elsewhere such large loaves. Were I not afraid of being accused of taking advantage of the privilege of travellers, I should say they were near half a yard cubed. As this bread is made without yeast, about which such a hue and cry is often raised, and with a substitute which is a dry mafs, that may be easily transported, and kept half a year or more, I think it may be of use to my country, for me to detail the Debretzin art of making bread. The ferment is thus made : Two good handfulls of hops are boiled in four quarts of water ; this is poured upon as much wheaten bran as can be well moistened by it ; to this are added four or five pounds of leaven : when this is only warm, the mafs is well worked together to mix the different parts. This mafs is then put in a warm place for twenty-four hours, and after that it is divided into small pieces about the size of a hen's egg or a small orange, which are dried by being placed upon a board and exposed to a dry air, but not to the sun : when dry they are laid by for use, and may be kept half a year. This is the ferment, and it is to be used in the following manner : For a baking of six large loaves, six good handfulls of these balls are taken and dissolved in seven or eight quarts of warm water. This is poured through a sieve into one end of the bread-trough, and three quarts more

of warm water are poured through the sieve after it, and what remains in the sieve is well pressed out : this liquor is mixed up with so much flour as to form a mass of the size of a large loaf : this is strewn over with flour, the sieve with its contents is put upon it, and then the whole is covered up warm, and left till it has risen enough, and its surface has begun to crack : this forms the leaven. Then fifteen quarts of warm water, in which six handfulls of salt have been dissolved, are poured through the sieve upon it, and the necessary quantity of flour is added, and mixed and kneaded with the leaven ; this is covered up warm, and left for about an hour. It is then formed into loaves, which are kept in a warm room half an hour, and after that they are put in the oven, where they remain two or three hours according to the size. The great advantage of this ferment is, that it may be made in great quantities at a time, and kept for use. Might it not on this account be useful on board of ships, and likewise for armies when in the field ?

Guba, as far as I know, is an article peculiar to Hungary, and here it is only made in a few places. It is very convenient for those whose occupations expose them to be out in inclement weather ; as shepherds and herdsmen. It may be fabricated wherever long-wooled sheep are bred : it exactly imitates a sheep's-skin. The chain, or warp, is about as thick as a small crow quill, and pretty fast spun. The woof, or weft, is on the contrary very loosely spun, and nearly as thick as one's little finger : this is wound on a piece of wood half a yard long, in the direction of its length : this is the

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shuttle.

shuttle. Though the cloth is only a yard wide, two weavers work together on the same bench : no *temples* are used, and the loom has only two *treadles*. What is peculiar in this cloth is this ; that after every four throws of the shuttle, that is after every fourth thread, a small lock of the long wool of the *Ovis Strepficeros*, or Hungarian sheep, is put in with the fingers ; it passes laterally over and under four threads of the warp : one end of the lock, and that is its base, only just comes out ; but the other end is four or five inches long, and hangs down as on the sheep's back. Thus there is only one lock to four threads of the chain, and one row of locks to four threads of woof : but as the locks, which are put in by both weavers, are made to come out a thread of the warp more to the right after each throw of the shuttle, the whole cloth is equally covered by these locks. That this may be more easily understood ; let it be supposed that 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 represent the threads of the chain, and *a, b, c, d, e, f*, the locks ; *a* goes over 1, under 2, over 3 and under 4, and then is brought out ; *b* goes over 5, under 6, over 7, under 8, and then is brought out ; *c* goes over 9, under 10, over 11, under 12, and then is brought out ; so with *d*, which comes out at 16, and *e* at 20, and *f* at 24. This forms one row of locks ; then succeed four throws of the shuttle, and another row of locks ; but the first lock, or *a*, of this second row, goes over 2, under 3, over 4, under 5, and then is brought out ; *b* likewise of this second row goes over 6, under 7, over 8, under 9, and then is brought out ; *c* goes over 10, under 11, over 12, under 13, and then is brought out, and so on ; *d* coming out

out at 17, *e* at 21, *f* at 25 : then again four threads of woof, and another row of locks ; here *a* comes out at 6, *b* at 10, *c* at 14, *d* at 18, and so on. After the guba is wove, it is sent to Grofs Wardein to be washed in the hot-springs there, and this, I believe, is all the milling it has : it is then dyed, and generally black : it is only worn by the common people, and costs about half-a-guinea, made into *matelots*, or loose great-coats. A finer sort is made from the wool of lambs or young sheep : these are dyed blue, look very well, and are very good for winter use instead of furs : they cost thrice as much as the common sort.

Just out of town there is an Imperial Saltpetre manufactory. This salt is not produced by an artificial composition of vegetable and animal substances, but soil from the neighbourhood is collected and formed into stacks or heaps twenty feet long, six feet high and six feet thick, but smaller at top than at bottom : of these there are a good many. As the saltpetre appears on the surface, it is scraped or brushed off with the soil, and thrown into tubs with straw at the bottom, and provided with a spicket and foffset. Water is then poured on, which dissolves the saline matter, and, percolating slowly through the straw, runs out, and is received into a general receiver. Of these tubs there are a great many. This lixivium is poured upon fresh materials, till it is sufficiently impregnated ; it is then evaporated, crystallized, and purified as in other manufactories. The director was a German. But the purification of what is received from the
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small manufactories, such as those I met with between Erlau and Hedwig, is the principal concern. Of about 1000 cwt. which is annually sent from hence to the Imperial magazine at Cashaw, 200 cwt. is only produced here; the remainder is received in the impure state, and is only purified. These small manufacturers receive for it in this state; for one fort eight-and-thirty shillings, and for another fort six-and-forty shillings the cwt.

Horned cattle are another principal source of riches to this town. Mr. Korabinsky mentions in his Lexicon, as a proof of the greatness of its herds, that a certain Biró is said often to have driven ten thousand head of cattle upon the neighbouring common; and that in the year 1739, when on account of the severity and length of the winter a scarcity of fodder prevailed, and it was requisite to slaughter more than eight thousand head, they were never missed.

The four annual fairs bring hither a great number of strangers, and many more are brought by law-suits in the *Districtual* Court of Justice held here, of which there are only four in the kingdom. Before this Court the civil causes of the nobility are pleaded. Its members have the vile practice of receiving *incidents*. Are these bribes? the reader will ask. God forbid! They are *only douceurs*, to engage the Judges, or the *Referendaries*, to examine more *strictly* into the nature of a cause. These *incidents*, for I would not call them bribes for the world, form the greater part of the incomes of the members of this court.

court. And the courts of law at Buda are not less venal; and as the causes which come before them are of greater importance, their incidents are greater.

Nothing surprised me more in France, than to see in the parliament towns the litigating parties, with letters of introduction and recommendation in their hands, pay their court to *Monseigneur Le Premier President* and his associates, and this not secretly, but openly, as complying with a received custom. If, where justice is impartially distributed, the losing party attributes but too often its misfortune, not to the badness of its cause, but to the defects of the law, and the partiality of the judges; what must be its sentiments here, and how great its vexation, where the ministers of justice are sued for judgments with money in their hands! I hardly know what sum to give as the fixed salary of these judges; I find eighty pounds a year noted down in my journal, and eighty pounds at Debretzin is not so small a sum as it is at London; but Mr. Keresztury in his *Introductio*, &c. whose accuracy I cannot doubt, gives 250l. as the salary of the president, 150l. as that of the first assessor, 120l. for each of the nine assessors, and 80l. for the secretaries. This was according to the regulations of Joseph the Second; but whether these salaries have been continued whilst the rest of this sovereign's regulations in law matters have been laid aside, I cannot say.

I was a good deal surprised to find in this very distant country
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four or five gentlemen who had visited our island: one or two of the professors had been there. It is a custom for the Calvinist ministers to make a tour to a protestant country; some go to Holland, some to Switzerland, and others to Great Britain. Pastor Benedict is well acquainted with the language of the gypsies, or, as they are called in Hungary, Ziguiners; he assured me that when he was in England, he conversed with some English gypsies who understood him very well. Dr. Vesprim, the oldest physician in the town, studied some time I think at Edinburgh.

Debretzin has a tolerably good inn. Travellers in this country often carry about with them their own feather-beds, &c. and the innkeepers find only the bed-steads: this probably was a custom formerly in Germany; for at this day, in some parts of it, a large leather *valise* or portmanteau is called a *bettsack*. Just without the town there are a few vineyards, but they yield a very poor wine. This is the last place where I would fix my residence; a deep Calvinistic gloom pervades every thing, and the dull rainy weather which happened during my two or three days' stay here added considerably to it. For water the inhabitants are obliged to go near a quarter of a mile, and they have no stone nearer than Groß Wardein or Tokay.

C H A P. X.

GROSS WARDEIN—COUNTY MEETING—HOT BATHS—NATRON
—ZIGUINERS, ETC.

DEBRETZIN was to have been the extent of my travels eastward; but as I was informed that some high mountains which I saw from hence were close to Gross Wardein, only a short day's journey distant, I was desirous of examining them, as I should then have seen the mountains or hills that bound the great plain as well on the east as the west; and as Baron Voray, who was at Debretzin on some law business, was returning to his estate in the county of Arad, for the sake of company we agreed to travel together.

Sunday the 23d of June I left gloomy Debretzin, and travelled over much such a country as that of my last day's journey; but this was better inhabited. I passed through several good large villages, but the road was much worse. Near a fen between Bogash and Kis-Maria, are some remains of one of the fortresses of the famous Botkai. This *patriot* was so zealous, and so little delicate in the means by which he was to execute his designs, that he invited both

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Turks

Turks and Tartars to his assistance. We stopped and dined at the last-mentioned place: as the baron had informed the judge of his coming, he had prepared a comfortable dinner for us. This little village Kis-Maria was Botskai's birth-place and his property; and when he was elected to the principality of Transylvania, he gave his peasants their liberty.

My hills fled before me; and when I arrived at Gross Wardein, I found the mountains which I was told were here, to be only hills; and the mountains which I saw from Debretzin were those that divide Hungary from Transylvania, and were still a day's journey off. The poverty of the German language in this instance was in part the cause of the mistake: *Jerg* signifies both hill and mountain: so, often in works translated from the German, I have found these two words misapplied.

I was not, however, displeased at having made this mistake. Gross Wardein is one of the prettiest towns in Hungary; and in every respect the reverse of Debretzin. Every thing here looked gay; music and dancing were heard in every house; and buggies, gigs, and chariots were bowling about as with us: this was Sunday, and the inhabitants are catholics, to them therefore a day of festivity.

I waited immediately upon the deputy lieutenant of the county, or *viceroy*, though I had no letter of introduction to him; and this did

did not prevent him from receiving me in the most polite manner. I now thought myself very fortunate ; for I learnt I was come at a most favourable time, as the next day there was to be a meeting of the county : I was kindly invited to attend, and likewise to dine with them. I then began my mineralogical investigations ; but I did not find any porphyrous rocks or breccia as on the western side of the plain ; nor did I see any indications of such : in the brooks, and in the bed of the river, I found limestone pebbles ; and in the buildings sandstone was used.

The next day I attended the county meeting, and received every mark of civility and attention. It was a very brilliant assembly : the gentlemen were all in elegant Hungarian dresses. The debates were carried on in the Hungarian language ; it was therefore by their looks, and not by their conversation, I was to learn what was going on. Some from the tone of voice I conjectured to be much out of humour : these frequently twisted their *moustaches* very rapidly between the fingers ; but this did not signify, like the bull's rubbing his horns, or the boar his tusks, against a tree, defiance ; business was peaceably transacted, and about two o'clock we sat down to a hospitable dinner, given us by the deputy lieutenant.

German cookery and German manners and customs prevailed here as they do in the rest of Hungary. Before we sat down we all stood round the table, and each for himself prayed or pretended to

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pray :

pray: this was what we call *grace*. Towards the conclusion of the dinner, which lasted a long time, a few glasses of good wine were sent round; and then we all rose up, stood behind our chairs, prayed again for about a minute, and then withdrew for our coffee.

I was introduced to the bishop, and to the provost Count Sauer, by both of whom I was invited to dinner for the next day. The bishop seemed to be a good honest fellow, and supplied his inns with sound wholesome wine. He is not indebted to his birth or connections for this high dignity: he was only chaplain to a regiment when the Emperor Joseph gave him this See, which was formerly a very rich one; but his predecessor, by his bad management, greatly involved it in debt, so that the clear revenue now is only about five thousand a-year. The episcopal palace is a vast pile of building, but not finished. In the church are the tombs of some Hungarian kings, and amongst these that of Saint Ladislaus: on this account, when Uladislaus, King of Poland, accompanied the Emperor Sigismund hither from Debretzin, as an act of piety he walked.

In the afternoon I went to the hot-baths, which are about four or five miles from the town. Some of these are only covered by a shed, others are quite open. Here I saw the strangest sight sure mortal ever beheld. At Gross Wardein begins the district of Hungary inhabited by the Wallachians, as may be seen in the map, and many
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of the lower orders of the inhabitants of this town are of this nation; which is a member of the Greek church, and follows the old-style. This, therefore, was the Pentecost of the Wallachians; and a swarm of them was come here to enjoy the pleasures and advantages of the baths, so that most of them were full, and presented really a sight which my pen is no way capable of describing. All ages and sexes, with skins of all hues, and with features of all expressions, were washing their hides in these cleansing waters. From what I said of the baths of Bude, it is not necessary to say, that the fair were without their shifts, yet not without their petticoats.—Oh! happy man!—Oh! fortunate traveller! says secretly my reader, thus to have been permitted to feast your eyes on so much beauty. Reader, be not unhappy nor envious: much you have not lost; and if you will drive your pigs into a horse-pond, and view them with poetic fancy, your pleasure may equal mine: disgust, not desire, was raised at this sight. Old women here prevailed, with pendent flabby dugs, and withered skins. In zoological terminology, *Mammæ pendentes flaccidæ marcescentes, rugosæ tuberculate furfurosæ flavo-fuscæ*. Some of these good women had their little children in their arms. I noticed two or three young *Zigui-ners* amongst them; these, though so young, were as dark as Mulattoes: no doubt with this colour they came into the world. But this was not all I saw: this odious sight only served to set off to greater advantage a solitary nymph in another bath; and now you have cause, reader, to envy my good fortune. For here alone, and only under the grey canopy of heaven, “whilst evening drew her crimson curtains round,”

and

and the serenity of the air and the melody of the neighbouring woods awakened sweet sensibility, friend to our pleasures, but often enemy, alas! to our peace; separate from the vulgar throng and all alone, as if conscious of her superior beauty, the loveliest girl Nature ever formed lay quite exposed, reclining in a shallow bath in the very attitude of desire. A thin short petticoat, which the tepid water wrapped close about her limbs, or else wantonly spread wide abroad, as if, proud of its beauteous guest, it was eager to shew her delicate shape, or else expose all her charms, was the only covering she had on. Youth, the youthfulness of eighteen years, sparkled in her eyes and glowed in her lovely countenance; and her heaving bosom and swelling breasts announced that she had reached that happy period of life, at which kind Nature having invested her fair offspring with their brightest charms, warms them with love, and teaches them to exult in being loved. She suffered my enamoured gaze, and smiled; and by her melting looks expressed she felt the presence of the God of Love and her own frailty.—*Ob! che boccone!* what a contrast to those in the other baths! Here I should say *Mammæ hemisphæricæ prominentes firmæ dilute rosæ*—*Ob! che boccone!*—Why, O kind Providence! hast thou so often made so great a difference between our duty and our desires, and placed so many barriers to keep us from the but little bliss we see, often the only we can expect and the only worth desiring?—Are these the restraints of thy governing care? or are they the machinations of thy perverse children; who, though thou art willing to lead them through life by the path of pleasure,

pleasure, like gloomy *fakirs* prefer that of austerity and useless mortification? If so, let some philosopher arise amongst us, to teach us a morality more compatible with human nature. For what is this world, viewed even on its fairest side, with all its pomp and glitter, undiminished by the detracting eye of experience, without the delights of love, but insipidity, or toil and drudgery? It is this alone which can make the nauseous or insipid draught of life go down, and repay us for bearing the oppressive load of care which society and cruel fortune often with merciless hands heap upon us; and without this we either become children and amuse ourselves with trifles, or turning morose, and then seeing every thing in dismal colouring, refuse to act our part in life.

These are the natural consequences of a severe morality, which, like the chilling wind of hard penury and grief, depresses the generous feelings of the soul; whilst those who with a full pulse enjoy these the sweets of life, and remain uncorrupted by the world, breathe in every wish general benevolence and good will, and delight in seeing a happy world.

After such a bewitching sight as this, how could I descend to the common affairs of life and think of——reptiles? The charming girl made me lose a snake I had just killed by the side of the warm waters which run from the baths, and which I had half examined. I think it was the *Natrix longissima* of Laurentius, and the *Natrix*
Var.

Var. h. of the Syst. Natur. If I had examined it more carefully, I believe I should have ventured to say it was a distinct species from the *Natrix vulgaris*: it not only varied in the characters mentioned by Laurentius, but the eyes were quite different. Near the baths I saw some rocks of compact limestone.

This county is endeavouring to promote the cultivation of silk-worms. Last year it produced five hundred pounds worth of silk; and some ribband-weavers have been enticed from Vienna to work it up. Attempts are likewise making to purify the native Natron, which is found in such great abundance in this part of Hungary. Some samples given me were very good; but I could not learn the price: and on this in commerce all depends.

I visited the prisons, and I found them but too full. The Wallachians are the most uncultivated and ferocious people of Hungary, and justice is obliged to be administered to them in all its horrors. In 1785 they rebelled in Transylvania, and with great cruelty murdered many of the nobility. Their priests, whom they call *Popes*, are uncommonly brutish, and it is calculated that in twenty executions there is always a *Pope*. Now, or till within a few years, the most frightful punishments were inflicted upon them, flaying, empaling, &c. &c. But the most shocking punishments I have read of, were those which were inflicted on the leaders of the peasants' war in the beginning of the sixteenth century in the Banat. They are too
frightful

frightful to detail. The chief, as king, was set upon a red hot iron throne, and an iron crown was put on his head, and a sceptre of the same in his hand, both red hot. In this state, half roasted, nine of his principal accomplices, nearly starved to death with hunger, were let loose upon him, with threats of instant death, if they did not fly upon and eat their pretended king. Six obeyed, and fell upon him and ate him. Three others who would not, were immediately cut to pieces. Yet under all this torment the unfortunate man never murmured!!

I know not if ever an English traveller was at Gross Wardein before; but I was here made as much of as though I had been a very great personage. I had invitations from all quarters; and the *Viccomes*, or lieutenant of the county, was so kind as to offer me every assistance I could want; if I would take the trouble to examine the mountains towards Transylvania: but my time, unfortunately, would not permit me to extend my journey further, and I fixed my departure for next morning. The morning came, but not my horses; the Judge, or his substitute, got drunk, and forgot to give notice to the peasants; and it was ten o'clock before I set out. I took the same road I came, and returned to Debretzin. I stopped at the lake near Kis-maria, where the Natron is collected and purified; but there was nothing in the process worth relating. The *Székso* is collected on the sides of the lake, and in some other places: in dry weather,

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when the lake is low, the water of this is likewise rich in Natron. A *kibla* of *Szekefo*, or impure Natron, is sold for two shillings and eight-pence, and six *kibla* yield about one hundred weight of pure Natron. It is said by Mr. Rückert, in Crell's Chem. Annals for 1792, that 10,000 cwt. of pure Soda, or Natron, might be made yearly, and sold at the price of potash. ——— Ten thousand hundred weight? If I have not made an error in transcribing, he must certainly mean in all Hungary.

I only passed the night at gloomy Debretzin, and then pushed on to Tokay, which I reached about four in the afternoon. I passed through the district of the Haydukes: six or seven towns; with two-and-twenty thousand inhabitants, form this district. They are the descendants of some troops which, in the beginning of the last century, at the termination of a war, were settled here, and received lands on condition of rendering military service. They have their own magistrates, and are not under the government of the county. Judging from externals, they are not more opulent than their neighbours. From Debretzin to Tokay the country is quite flat, being part of the great plain: it grows a good deal of corn and Indian wheat, but it is chiefly pasture land.

By the road-side I found a large party of zigeuners. How admirably they are portrayed by Cowper in these lines:

I see

I see a column of slow-rising smoke.
 O'ertop the lofty wood that skirts the wild.
 A vagabond and useless tribe there eat
 Their miserable meal. A kettle slung
 Between two poles upon a stick transverse,
 Receives the morsel; flesh obscene of dog,
 Or vermin, or, at best, of cock purloined
 From his accustomed perch. Hard-faring race!
 They pick their fuel out of every hedge,
 Which kindled with dry leaves, just saves unquen-
 The spark of life. The sportive wind blows wide
 Their fluttering rags, and shows a tawny skin,
 The vellum of the pedigree they claim.

Hungary may be considered as the seat of this people. They are here very numerous, and lead the same vagabond life they do in other countries. Several of the later Hungarian sovereigns have endeavoured to render them sedentary, but with not much success; they still stroll about the country as tinkers and musicians, but are not seen in such hordes as formerly. It is but a few years ago (I think under Joseph II.) that about a score of them were condemned and executed in the Great Hontor county for being—*Anthropophagists*; but, when it was too late, it was *suspected* that their Judges had been too hasty in their condemnation. They were not seen in Hungary before 1418. What their numbers are I could never learn; but when the neighbouring country of the Buccovine

was lately ceded to Austria, of seventy thousand inhabitants, *one thousand were gipsies.*

The *Citillus*, earless Marmot, had begun its depredations on the corn, though it was still green : at the mouths of their holes lay heaps of *aristæ* and chaff.

C H A P.

C H A P. XE.

TOKAY—ITS VINEYARDS AND WINE—SOIL—LITHOLOGY—
AND SALT MAGAZINE.,

FROM the situation of this town, on a rich soil, and at the junction of two considerable rivers, one would expect to find it great and opulent: why it is not, I do not know. It is but a little paltry town, though it has certainly a fine situation. The inn was so bad, that the Director of the Royal Salt Magazine, to whom I had a letter of introduction, would not suffer me to stay there, but brought me to his own house, where I remained, and was hospitably entertained during my stay here.

Tokay, not unlike a great part of mankind, derives fame from the merits of others. It produces only a small part of the excellent wine that bears its name; but it has had the good fortune of giving it to a hilly district extending twenty or thirty miles northward & in breadth it is much less considerable. In this tract of country lie Tarczal, Zombor, Made, Rátka, Talya, Szanto, Keresztur, Kís-falu, Benye, Tolcsa, Liszka, Horvati, Zsádany, Vámos-Uifalu, Olasz, Patak, Karoly falva, Trautzon falva and Uihilly. Some of these towns

are much greater than Tokay, and produce a wine no ways inferior to it. But Tokay has not always had this honour. Nicholas Olaus, who wrote in the sixteenth century, does not place the county of Zemplin, which Tokay is in, amongst those which produce the best wine; he enumerates only Sermia, Sumeg, Barony, Presburgh, Oedenberg, Heves Borsod, Abauivar, Vespriim, and Salad; yet he speaks of Szanto and Lifzka, which belong to the Tokay district, and says "*Oppida vini optimi feracia.*" It seems that Tokay obtained this distinguishing honour under the government of Rakotzy, through his keeping here the wine which he received from this district.

But the wine generally known in foreign countries by the name of Tokay, is a particular kind, and made only in small quantities in different parts of this district, and is sold even here very dear; it is here called *Anfbruche*, and is made by mixing a portion of luscious half-dried and shrivelled grapes with the common ones. As it will probably be agreeable to most of my readers to know the whole oeconomy of the vineyards of the celebrated Tokay, I will devote the greatest part of the present chapter to this subject, and relate the management of them from the first planting of the vine to the perfection of its juice.

The vines when first planted are cut down at a knot, to within a span of the soil, and the superfluous young shoots are cut off every spring at the same place: by this means a head is formed, which
increases

increases yearly ; sometimes they are very large, but the best size is that of a child's head. When the vines have repaid by their fruit the industrious labourer for his trouble, which is late in autumn, the stumps are covered an inch or two thick with soil, and then each represents a mole-hill. Often, it is said, the husbandman is seen following his gatherers occupied in this work, lest early frost or snow should prevent its being done ; sometimes even the branches, if designed for layers, are covered. Some vine-dressers take out the sticks and lay them in bundles, others leave them standing. As soon as the winter is over, and the weather begins to grow milder, which is about the middle of March, and often at the beginning, the stumps are again uncovered, and the soil about them turned up : this labour is followed by the dressing, which is generally done as soon as the season will permit ; that is, at the end of March, or at the beginning of April. Time, severe winters, and spring frosts, cause ravages in the vineyards : to make good these deficiencies, fresh vines must be raised. This is done in different ways, by transplanting, and more commonly by planting the cuttings of known good and sound vines ; and this is the next business to be performed. The cuttings (the points of which soon withering must be cut away) should be put knee-deep in the soil, with a little dung, the other end to be only a span above ground, which should be covered up till it is probable it has begun to shoot, and the spring weather is no longer to be feared. Or they are raised by layers. Here the soil is dug out from about the stump and roots till the hole is a foot and a half deep ; these then are trod :

trod to the bottom of it, so that the branches, where they are inserted in the stump, are under ground, and the remaining part is laid down and covered with the soil mixed with a little dung, so that their points only reach a few inches above the surface of the soil. To each of these branches, which with time becomes a new vine, a stick is given. Then follows the severest labour of the vineyard, the digging or turning up the soil: this is repeated three or four times before the vintage. Soon after the first digging, the sticks are driven in, to which the shoots, when they are about two feet long, are lightly bound: when they are grown to five feet they are better bound, once pretty fast above, and once looser in the middle. Weeds by this time again begin to grow, and the soil is again turned up to destroy them, and to keep it light: but during the flowering of the vine, nothing is done; Nature is left entirely to herself. This being over, the sticks are driven firmer in the ground; the vines which may have come untied are better secured; the too luxurious growth is taken away, and the vines are so ordered that they may require no farther care till the vintage; only the soil is once more turned up. Now the husbandman's toil is over, and he waits for the blessing of Providence in a fine vintage—with anxiety—for very uncertain are his profits.

Though in warm seasons the earliest grapes are ripe in the middle of August, it is the latter end of September before the greater part are eatable; and as the grapes for pressing must be fully ripe, the vintage

vintage is delayed as long as possible; generally to the feast of Saint Simon and Saint Jude, which is the 28th of October; and if the weather is fine, the later the better, on account of having the greater quantity of the half-dried luscious grapes, or, as they are here called, *Troken-beers*; which are absolutely necessary to form the *Aufbruche*, that kind of Tokay wine which is so much esteemed, and which is called by us Tokay. As soon as the grapes begin to grow ripe, guards are placed in the vineyards, not only to prevent the grapes from being stolen, but to drive away the birds from them.

At last the season of rejoicing comes, the vintage. In every country this is a time of mirth and gaiety; but particularly so about Tokay. Many of the great nobility, though they have no estate here, and live in distant parts of Hungary, have a vineyard here, and business as well as pleasure brings many of them at this season; and the dealers in this article come likewise to make their contracts, and the friends of all concerned, from a tacit invitation, come to join in the general festivity: the vintage is preceded by fairs, so that during this season all is life and bustle.

To the *Troken-beers*, or half-dried luscious grapes, Tokay, that is, the Tokay *Aufbruche*, is indebted for all its richness: but these depend greatly on the weather; every year does not produce them either in the same quantity or quality; in some years they fail altogether. If the frosty mornings set in too soon, and, before the grapes are

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ripe,

ripe, destroy the connection between them and the vines, the *Ausbruche* is harsh and sour; yet frosty mornings, when not too soon, are advantageous to them: if wet weather sets in at the time they ought, through the influence of the sun, to lose their watery parts, and to be turned to sirup, it may easily be conceived what will be the consequence. These *Troken-beers* are always trifling in quantity compared with the other grapes; and in some years, as I have just said, there are none at all.

The season for gathering being come, young and old, with merry hearts and active hands, repair to the vineyards, and ease the vines of their precious loads: but in doing this, the *Troken-beers* are picked from the rest, and kept apart; and they are often sold to those who make *Ausbruche*, by those who do not. The spoil carried home, the ordinary grapes are trod apart, and the juice is taken out, and then the remaining juice is pressed out from the skins and stalks: both are commonly put together in tubs, no difference being generally made between the juice trod out and that pressed out. This when fermented forms the common wine; which is not sent out of the country as a delicacy, and never reaches our island. The *Troken-beers* are likewise trod, and then have the consistency of honey: to this is added the common juice; and as the richness of the *Ausbruche* or *Mascklafs* depends on the greater quantity of the juice of the *Troken-beers*, the proportions vary according to the intent of the owner. The common proportion for an *antal* of *Ausbruche*, which

which contains seventeen or eighteen English gallons, is two bushels of *Troken-beers*; and for a cask of *Maschblafs*, which is only a less rich liquor, the same quantity is taken: but then the cask is about equal to two *antals*; so that only half the quantity of *Troken-beers* are used to make *Maschblafs* as are used to make *Ausbruche*. But as the *police* does not interfere in this matter, and every one does as he thinks proper, these two liquors are often very near alike, and the principal difference then consists in the size of the casks.

The mixture being made, it is strongly stirred together. By this operation the seeds are separated from the flesh of the grapes, and come to the top, and are taken out with a net or sieve: thus it remains in the same vessel, covered over for a couple of days, till fermentation begins; and this is suffered to continue about three days, according to the weather; that is, till the fermentation has properly mixed the fleshy pulp of the *Troken-beers* with the common juice: it should be stirred every morning and evening, and the seeds carefully taken out. If the fermentation is continued too long, the wine receives from the skins a disagreeable brown colour, and forms a deal of yeast and sediment in the cask. Nothing now remains to be done, but to pour this liquor through a cloth or sieve into the barrels in which it is to be kept. The residuum is then pressed: some even after this, pour the common juice upon this pressed residuum; but if the press is good the common wine gains little by it.

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When a considerable quantity of the *Troken-beers* remains a short time together, some of their thick juice or sirup is expressed and runs out: this is carefully collected as a great delicacy; it is called *essence*, and has the consistence of treacle. No art is used to fine these wines, nor to make them keep. The barrels should be kept full, and their outsides free from wet and mildew.

Aufbruche is not exclusively made about Tokay: there is a Saint George, a Ratschdorf, and a Menische *Aufbruche*, and this latter I prefer to that of Tokay; it is red: some is made likewise in the county of Oedenberg.

The best wine does not long remain in the place of its growth: a great part of it is soon sent into the cellars of the nobility in other parts of Hungary; and the greatest quantity is to be found in the counties of Zips and Liptau in the north, from whence it is sent into Poland. The Polish Magnates are the best customers, particularly for the *Aufbruche*, which is the dearest European wine that is: here in the country, a bottle of the best is valued always at about a ducat, that is near half-a-guinea. I dined once at the coffee-house at Pest with a few friends: we had only a plain dinner, for which we paid but a moderate price: besides common wine we had some Tokay: when the waiter came to be paid, he asked each how many glasses he had drank of it, and then added twenty creutzers (about eight-pence) for each glass to the scot of every drinker of Tokay.—

Tokay

Tokay is no doubt a fine wine, but I think no ways adequate to its price: there are few of my countrymen, except on account of its scarceness, who would not prefer to it good claret or burgundy, which do not cost above one-fourth of the price. Some of the sweetish Spanish wines, begging its pardon, are in my opinion equally good; and unless it be very old, it is too sweet for an Englishman's palate; but, as I have often said, *de gustibus non est disputandum*; and I hope my good Hungarian friends will pardon my want of judgment, though I know how much they are prepossessed in favour of their *cara patria* and its dear produce. I have heard many of them say, that the worst Hungarian wines were superior to the best French. How much they have said about *their vegetable gold*, found growing amongst the bunches of grapes, is pretty well known, as this story is to be found almost in every Hungarian author who has sung the praises of his country, though the *gens éclairée* pretend not to believe it. Mr. Grossinger, who within this year or two has written a large work in Latin upon the natural history of Hungary, gives this explanation of the colour of the teeth of sheep. "*Si vero fulgor perennis est, auro tribui potest, quod in vegetabilibus Montanæ Hungariæ delitescit.*" And Mr. Windisch, one of their best Geographers, says in a work written about 1780, nay I will write it at full length, about *seventeen hundred and eighty*, lest the reader should think the printer by mistake had put a seven for a four, that rye, through the excellency of the Hungarian soil, is turned into wheat. —But happy are the people who are thus proud of their country,

and who think their territory an earthly paradise, and their government a model of perfection ; yes, and happy is the pair who find in each other every charm and every virtue ; and the parents who see in their children every juvenile merit ; and the children who look up to their parents as their guardian angels. Without these instinctive attachments, patriotism, connubial love, parental kindness, and filial affection, would hang by a very slender thread, and the smallest breath of jarring interests would overturn public and private felicity : and so I am glad when I see the Hollander look sour when he hears his country cursed as a foggy bog, fit only to serve as a peat-moss for the rest of Europe ; and I have often at *Auld Reeky* heard with pleasure the North Briton greet his friend with :—" Weel, Donald, is na this a *fine* cauld rainy morning ?"—" Indeed is it, Sandy, a *fine* cauld rainy morning."

Though all Tokay wine does not grow at Tokay, yet all the favourable situations about this town are covered with vines. The soil is remarkably fine and light, just like *Tripoli* : it is quite a powder, of a light brown colour, and makes a considerable effervescence with acids : it has nothing of the nature of sand, nor is it at all mixed with gravel or stones ; only now and then a few loose pieces of Porphyry are found amongst it. It is very deep : where ravines have been formed by the rains it may be seen that it is several yards thick. Towards the top of the hill, immediately above the town, it is more rocky, and there probably it is not so deep. I was
in

in doubt of what nature I should consider this soil to be; and at a loss to explain how so deep and light a soil should exist upon so rapidly sloping a hill. Towards the bottom, facing the river, there are some precipices which throw, I think, considerable light upon this matter. Here, in this soft, friable soil, I observed the same structure I had often seen in traps and basaltes, when in an incipient state of decomposition—a disposition to assume rude and irregular prismatic and columnar forms: but a large angular block imbedded in the soil threw the greatest light upon it. This, though with the angular shape of a fragment of stone, differed from the soil only in being a little darker in colour, and not quite so friable; yet it might be cut like cheese, and it made an effervescence with acids. From these circumstances, I am led to consider the soil, as well as the block, to be some kind of trap or basalt decomposed.

In a deep ravine, where a narrow road has been made, I found the rocks composed of that kind of Porphyry called by Mr. Werner *Porphyrschiefer*, the *Porphyrius schistofus* of the Syst. N. Lin.*; though Mr. Born, in his nineteenth letter to Mr. Ferber, says, the hill on which the Tokay wine grows, is Argillaceous Shistus (*Thonschiefer*), and from hence infers that the *Obsidian* found here is not indigeneous.

* *Porphyrius schistofus*.

Ex. Petroflice fusca lineis vel venis interruptis tenuibus subparallelis albidis, particulis albis Feldspati, & pellucidis Adulariæ.

but

but has been brought by some means or other from the Carpathian mountains. It must be mentioned in extenuation of such an erroneous account, that Mr. Born's journey to Tokay happened soon after he met with the dreadful accident at Felső-Banya; and this so ruined his health as to prevent him from examining these hills himself: and this he confesses in his nineteenth letter to his friend Ferber, dated at Schemnitz—"It is impossible (says he) for me to tell you how much I have suffered in my journey of ten days from Nagy-Banya to this place: I was chiefly carried in and out the carriage; each stone on which I touched; each shaking of the carriage, doubled the pains which I feel throughout my whole body. The dry cough, which does not leave me, still prevents my sleep. In this painful state of body it was impossible for me to examine the hills I passed by." Indeed, in his last work, his *Catalogue Méthodique*, he gives a quite different account of these hills, and on the same subject, the Obsidian. For on the article "*Verre volcanique en grains noirs, &c.*" he says, "*Les collines de Tokay sont formées d'un Tuf Volcanique, qui, dans quelques endroits, est entrecoupé de bandes larges d'une ou de deux toises de lave compacte renfermant de ses grains vitreux, noirs opaques.*"—As Mr. Born was never here after his return in 1770, he must have obtained this intelligence likewise from his friends. No one, I hope, will think, from my taking now and then the liberty of correcting the mistakes of this great man, that I do not feel the greatest respect for him: he was the very light of Austria.

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On the back of this hill, towards the top, which is covered, not with vines, but with under-wood, I found a great many loose blocks of a very remarkable kind of *Pitch-stone Porphyry*. Its base, or ground, is a black *Pitch-stone*, containing red feldspar, chiefly in fragments, or in very irregular shaped parallelopipedal crystals: this is the best characterized. But this fossil by degrees changes materially its nature; the feldspar becomes more terreous and of a duller colour; and the black pitch-stone loses its shining glassy appearance, and only forms spots and streaks mixed with red matter. The red feldspar, under the blowpipe, melts into a white enamel: the pitch-stone likewise melts, and forms a black glass. The Botanist might have amused himself here as well as the Mineralist. I found three species of *Linum*, exotics of our island, the *birsutum*, *tenuifolium*, and *flavum*, and some other plants; and some of the insects mentioned in the annexed catalogue I collected here. From this hill there is a very fine extensive prospect of the neighbouring hills, and of those which run towards Marmarus: these skirt the great plain on this side, which lies below like the bed of the retired ocean. With a good mineralogical guide, and a longer stay, I doubt not but I might have collected some curious fossils, and have made some interesting geognostic remarks.

An immense quantity of salt comes here down the river from the county of Marmarus. Near a hundred thousand hundred weight is

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annually

annually sold at this magazine: the price is three florins and thirty-two creutzers (about seven shillings) per cwt. and the price throughout Hungary is the same, making allowance for the difference of the price of cartiage to different places.

C H A P.

C H A P. XII.

ACCOUNT OF FOSSILS—AND MINERALOGICAL REMARKS.

AT Tokay I had quitted the plain, and entered the hilly country: this continues to the great Carpathian Alps, a distance of two or three days journey, where I was very anxious to be during the fine season, that I might botanize there. Yet, being informed that some very remarkable fossils had been found in these hills, I thought it worth while going a little out of my direct road in quest of them.

The 29th of June I left Tokay. The moment I was out of town I observed great rocks of basalt overhanging the road, and a mile or two further, the *Volcanic Zeolite* of Mr. Fichtel. This is certainly a very curious fossil, and it as certainly forms rocks: but whether it be volcanic, and, if volcanic, whether it be *Zeolite* or not; every one will decide, on the first question, as he is prepossessed in favour of *Plutonic* or *Neptunic* theories; and on the last, according to the definition he may give of *Zeolite*. It formed on the left hand side of the road a bank, which in some places was fairly exposed to view.

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It

276 MINERALOGICAL REMARKS.

It is of an ash colour *, here and there variegated with red, very fragile, and the texture like a congeries of small tunicated ill-shaped beads, of a rather greasy lustre. It greatly intumesces under the blow-pipe, even to thrice its bulk, and forms a white scoria; but it only slightly phosphoresces, and forms no gelly with nitrous acid, which are two of the principal characters of Zeolite. In some parts the little globules, which are formed of different coats, contain a *nucleus* of *Obsidian*; the thin coats are easily detached. Of these *nuclei* I picked up a great many at the foot of the bank, mostly of the size of a pea, but some of the size of a bean: they are more or less angular, but never crystallized as Mr. Fichtel informs us. I have seen his pretended crystals, and can assure my readers, that none but those who are blinded by mineralogical hypotheses; and call in conceding fancy instead of severe judgment to be their counsellors, can think them such. These globules likewise swell under the blow-pipe, and form a whitish glass. Mr. Fichtel, who, I know, is very expert with the blow-pipe, says, in his *Mineralog. Aufsatz*. page 277, that he could only melt the Lipary *Obsidian*; and those of *Hekla*, *Transylvania* and *Hungary*, he found to be altogether infusible. This greatly surprises me; and the infusibility of this fossil is asserted by him likewise in his account of the *Carpathian mountains*, page 580. I have tried the small grains, and fragments of pieces two or three

* *Cinereus durus fragilis unctuosus-nitens, textura crasse granulata ex globulis parvis angulosis tunicatis.*

Tubi Ferruminatorii ope ter volumen auget & scoriam albam cum parum phosphorescentiz præbet.

pounds

pounds weight, but they all proved fusible. This is probably the "*Verre volcanique en grains noirs, réunis par une Lave compacte grise,*" of Mr. Born's *Catalogue Raisonné*, page 449, and the loose grains, his "*Verre volcanique noir, en grains isolés,*" page 450.

Mr. Klaproth has been so obliging as to analyse this fossil for me (I mean the pearly Matrix). He found it to swell up only moderately, when heated, and less than the other varieties of the same fossil; and that a piece of it, in a clay crucible, after remaining in a wind furnace for two hours, was not melted, and continued of the same shape; but the colour was changed to a reddish brown, and it had lost $4\frac{1}{2}$ per cent. of its weight. Another piece of the same, exposed in a clay crucible, to the heat of a porcelain furnace, melted into a whitish grey glass with an even and polished surface: in the fracture, however, it was full of fine froth-bubbles, scattered with white, black, and oker coloured grains imperfectly vitrified, about the size of millet seed; from whence the glass had a variegated and spotted appearance. Analysed in the wet way, it gave,

Weighed in. the red hot state,	{	Siliceous Earth	71½
		Argillaceous	18½
		Calcareous	1½
		Calx of Iron	1
			<hr/>
			92½
The volatile parts lost in the fire			- 4½
			<hr/>
			97
Loss			- 3
			<hr/>
			100
			<hr/>
			The

The specific gravity of this piece was 2,332; another, which was variegated with red, 2,342; another, with more red in it, 2,381.

In Mr. Pallas's *Nordische Beyträge* there is an account of a fossil lately found near that distant corner of the world, Kamschatka, which so perfectly corresponds with this, that I think, as words in the German language are so seldom translated into ours, I shall be thanked, by our English mineralogists, for laying a translation of it before them.

"If we wish to increase the names of fossils," says Mr. Pallas, "which is now much the fashion, the stone from the Marekanian mountains, on account of its singular nature and properties, deserves a particular name, much more than many new-named fossils. Most fossils, with scarce any variation, are common to different places: this is particularly the case with the *mountain rocks*, which are repeated in every chain of mountains; but I know of no example of one being found in any part of our globe, similar to this. The (Bergart) mountain-rock is very fragile, and consists of remarkably thin, pearl-coloured, glassy, shining, and transparent leaves, which are curved and interwoven in one another in all possible ways; they may be crumbled between the fingers, although when united together they scratch glass: it is not porous like pumex, and has still less the appearance of lava: it has much more the appearance of foliaceous zeolite, and when broken looks like pounded glass. In this

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mass

mass vast numbers of smooth, hard, in every way compressed, obtuse-angular, roundish, or longish pebbles, which here imitate water-worn pebbles of smoked quartz (*Rauchtopas*), there drops of opaque enamel, lie enveloped and variously interwoven with, and surrounded by, these leaves or scales. They are of the size of a great or small nut, though often much smaller, even not bigger sometimes than millet or poppy-feed.

“ Long ago these pebbles, or whatever you please to call them, were found in museums; and when I was in Siberia, the smoke-coloured transparent kind were brought in abundance to Irkutsk, where they were sold for polished smoked topazes. Yet I do not find them mentioned by Steller in his Mineralogical Remarks, although he was on the spot, and has given an account of other remarkable things. The fine leafy *mountain-rock*, which sometimes entirely forms little balls which have no other stony *nucleus*, but are composed, to the very centre, of concave leaves lying one upon another, and sometimes surrounds these pebbles, which we shall next describe, has the very remarkable and striking property, without any addition, to swell up under the blow-pipe, with some noise, as quick as alum or borax, and to be changed into a fine white frothy light and friable substance. If we increase the blast, it increases in bulk, till it is quite spongy, and it then cannot by any means be brought into a glass bead, either with or without fluxes: some pieces crackle and fly before they are red hot, others do not. This particular effect

effect of fire, with perfect insolubility in acids, drew first my attention to this substance, and induced me to request Mr. Lowitz, apothecary, and member of our academy, to undertake the chemical analysis of it; which I shall subjoin, after I have described the great and small pebbles, which are contained in it in quantities as in a pudding stone.

“ These pebbles, according to the specimens which have been sent me, are of two kinds: one kind is just like water-worn polished fragments of smoked crystal, commonly called smoked topaz, and was at first considered as such; but in polishing it is seen immediately that they are much softer, and they readily crack; they are scratched with the file, and fly when struck with a steel, with which they however give fire if struck on a sharp edge; yet they are hardly to be broken when struck with great violence with a hammer. Many are uniformly clear, tinged (clouded) of a yellowish smoke colour, which is hardly observable in very small ones; others have very evident, yet fine streaks or beds of a darker sooty smoke colour. These more or less fine, and quite parallel, beds run completely through the stone, and are in some more abundant and crowded together, in others less frequent, and render the stone more or less cloudy. In one of these stones I have found, on one of its sides, near the surface, an oval sooty spot with a curved surface like a thin leaf grown in it. The shape of these pebbles is generally irregularly round or oval, more seldom oblong, but always amorphous through various superficial

ficial impressions; likewise polygonal with rounded angles, like the shape that wax or clay assumes when carelessly rounded by the fingers, but they are all outwardly quite smooth and polished, and look as if they had been melted. The darker-coloured beds are not parallel to the longer or shorter diameter of the pebbles, but deviate from it, and run in all directions; and when the stone breaks, it is not in the direction of these apparent beds, but in indeterminate fragments, quite accidental, and with a concavo-convex and splintery fracture, like soft glass (*weiches glas*). The edges and corners do indeed cut glass a little, but they are soon worn away. The size of these pebbles is very various, and they are found from the size of mustard or poppy-seed to that of a hazel-nut, seldom greater; yet sometimes they are almost as big as a walnut. This substance, which has all the appearance of glassy quartz, in a moderate red heat, or before the blow-pipe, likewise begins, yet in a less degree, to turn white and become frothy, and changes to a fine substance like pumex, which may be impressed with the nail. In heating it seems to emit a white phosphorescent light. The scorification hardly enters above a quarter of a line, and the internal part remains still firm and transparent: if this is broken, every fragment shews the same appearance when heated; commonly the external parts begin to crackle and fly before they are throughout red hot.

“The other kind, which, according to the following observation of Surgeon Allegetti, are found in a different part of the mountain,

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have the same shape as the preceding ; they are generally a little bigger and harder, quite opaque, of a more or less pale or deep brick colour, marked more or less with blackish spots and streaks, and veined or reticulated like a gland. They fully resemble a marbled enamel, are generally on one side more rounded, on the other more pressed (concavo-convex), and round about edged as a melted substance poured into small holes or cavities. Struck with a steel they give more fire than the preceding, and resist the greatest stroke of a hammer ; under the blow-pipe they still more readily than the transparent ones change to a pearl or whitish colour on the surface, without great expansion, and this scorified surface then very easily falls off in scales. Such are the external qualities of these remarkable stones, and of the still more remarkable *mountain-rock* in which they are included. How far the following chemical analysis of Mr. Lowitz, which I give in his own words, can throw light upon their remarkable properties, I leave to the decision of others, till I shall receive a greater provision of them (which I am waiting for), and have it then in my power to supply the learned of foreign countries.

‘ Chemical analysis of a kind of fossil like Quartz Pebbles, with the mountain-rock in which they are found.—These roundish stones, which are given out for volcanic productions, are chiefly of the size of a hazel nut, and have a smoky transparent appearance ; but there are some which are opaque, and of a liver colour sprinkled with blackish and reddish spots ; they are considerably hard, scratch glass

and strike fire difficultly with a steel. The specific gravity of the transparent kind is to water as 2,3651 to 1,0000, of the opake kind as 2,3592, and of the mountain-rock as 2,3333. One of these clear pebbles, which weighed seventy-five grains, was repeatedly made red hot in a covered crucible, and each time quenched in cold water; by this operation it became white, and somewhat spongy on its surface; in the middle neither its clearness nor transparency was changed in the least. I then broke it into small pieces, and placed them once more for two hours in a strong red heat, by which not the least change was now produced on their new surfaces, but they remained constantly clear, with the edges sharp and transparent. After all this long process in the fire, I only found a loss of one grain in weight.

The pebble which had been thus treated was ground very fine, and fifty grains of it were placed in a crucible with three times its weight of decomposed mineral alkali, and heated as much as possible for three hours, (yet) without suffering it to melt: then the cooled white substance was supersaturated with aqua regis, and boiled for a few hours in a sand-bath; then filtered, and the undissolved siliceous earth carefully washed with distilled water; then dried, and at last strongly heated in a crucible. This then weighed thirty-seven grains. Fourthly, A little dry phlogisticated alkaline salt was added to the filtered solution, and Prussian blue was then precipitated; eight grains were required to its entire precipitation. Then all was boiled in a retort till it was reduced to a few ounces, then filtered, the Prussian blue

well washed, dried, and at last, together with the paper, burnt and calcined in the crucible ; which, deducting for the ashes of the paper, and for the residuum of the iron from the phlogisticated alkaline salt, gave half a grain of iron.

5thly, Upon dropping a few drops of vitriolic acid into this solution, now free from metal, there was not the smallest indication of ponderous earth.

6thly, The solution was evaporated to a few ounces, and its contents precipitated by caustic volatile alkali ; but the earthy precipitate, after being filtered and washed, but not dried, was perfectly dissolved in a superfluous quantity of vitriolic acid.

7thly, This solution had the taste of alum ; its contents I precipitated by boiling it strongly with dry earth of magnesia : I then boiled it with depurated mineral alkali, placed it on the filtrum, washed, dried, and at last heated it in a crucible, by which means I obtained six grains of argil.

8thly, The solution, containing the earth of magnesia, was precipitated by a solution of mineral alkali : this precipitate, after beingedulcorated and dried, weighed three grains more than the magnesia that had been used to precipitate the argil. These three grains, after being heated red hot, produced one and a half grain of caustic earth of magnesia.

9thly, Now the fluid which had remained after the precipitation of the argil and magnesia by the volatile alkali (No. 6) remained to be examined. This was likewise evaporated to a few ounces, which,

by the addition of a pure solution of vegetable alkali, yielded an earthy precipitate; this being washed and dried, gave six grains of aerated calcareous earth, and, being heated red hot, yielded three and a half grains of quick lime.——From these experiments it appears, that one hundred grains of the clear pebble have the following component parts:

Siliceous Earth	74	} grains weighed in the red hot state.
Argil -	12	
Lime -	7	
Magnesia	3	
Iron -	1	
	<hr/>	
	97	
Loss	3	
	<hr/>	
	100	
	<hr/>	

10thly, The Mountain-Rock, which contains the pebbles just examined, was analysed in the same manner, and gave the same products; but with a trifling difference in their proportions. Yet the following remarkable circumstance deserves to be noticed:—With the blow-pipe it swells up like alum or borax, with a crackling noise and phosphorescent light, into a remarkably porous, frothy, very fragile snow-white substance, which afterwards is infusible. But not less singular is it, that the just mentioned property of this Mountain-Rock entirely ceases, without losing its remarkable appearance, without a visible alteration of this appearance, and even without a considerable loss of its weight, as soon as it is made red hot:

hot in a covered crucible ; after this the blow-pipe has no effect upon it. As the analysis of this fossil gave nothing but known earths as its fixed component parts, so I am induced to think, that the remarkable appearance produced by the blow-pipe probably depends on some kind of elastic fluid, which is expelled by the effect of the fire, and which produces that appearance only by the immediate contact of free air and flame ; whereas, on the contrary, when heated in a covered vessel, it vanishes unnoticed, without producing any effect on the mineral itself.—The analysis of the red pebbles, which was not terminated at the conclusion of this volume, will be given some other time.”

The description of the fossil from near Kamtschatka so admirably agrees with the characters of this from Tokay, that I have purposely abridged my own description, as that of the one answers for the other ; except that the glass globules of the Siberian fossil are more diaphanous than those from Tokay, and here they are never red. Yet these are more diaphanous than the Obsidian from Iceland or Lipari ; and Mr. Fichtel * mentions one kind found at Pecklin, in the same district, which is just like bottle-glass, consequently with nearly a similar transparency. Nor, if we examine the matter more closely, will the absence of the red pebbles or globules make a difference ; for by the analysis it is found, that the globules and their matrix, however

* Mineral. Bemerkungen von den Carpathen, page 578.

they

they differ in their external appearance, are the same, even in the disposition to lose their property of intumescing on heating, by this being performed in a covered vessel *. For it is clear, though the learned chemist did not advert to it, that it is exactly the same cause, which made the clear and transparent fragments of the previously heated pebbles not lose their qualities on being again placed in the furnace, which made their matrix remain unaffected by fire when heated in a close vessel, and then be not affected by the blow-pipe : and I lately said that the grey matrix was intermixed with red, and I have small specimens in which the red predominates ; this need therefore only have had untunicated *nuclei* (for the red pebbles, it will be recollected, were quite opaque) to be perfectly similar, and it really has ; but they are generally tunicated till they become by exfoliation of the size of a poppy seed, and it is then difficult to examine them.—The resemblance of the two, that from near Kamtschatka and that from Tokay, is strikingly alike.

The fossil on which I have been so diffuse, is not a rare fossil in this part of Hungary. The matrix forms, according to Mr. Fichtel,

* * On this point Mr. Pallas and Mr. Lowitz seem to differ: for the former says, that the fragments of the internal part of one of these pebbles which had been heated, gave the same appearance, on being again heated, as the pebble itself did at first ; whilst Mr. Lowitz not only says that the internal part continues clear when in the pebble, but its fragments on subsequent heating lose nothing of their transparency.

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the mountains or hills of, Pap-Laffo, Cscherhezy-Farka, and in part the Schators, and several other hills about Telke-Banya and Tokay; in some of which places it contains the globules of Obsidian: these are likewise found loose and scattered about in many places in these Hungarian *Campi Phlegrei*, as may be learned from Mr. Fichtel's work, and Mr. Born's *Catalogue Raisonné*.

Mr. Fichtel gave me some of his black coal-like Zeolite, described by him, page 652; and Mr. Klaproth was so kind as to examine it for me. He found it swell up under the blow-pipe more, and more readily than that mentioned page 277: being heated in the same manner for two hours, it likewise lost $4\frac{1}{2}$ per cent. and placed in a porcelain furnace in a clay crucible, it melted into a similar glass; but the colour was of a browner cast. The analysis in the wet way gave,

Siliceous Earth	68	} weighed in the red hot state.
Argillaceous	20	
Calcareous -	$3\frac{1}{4}$	
Calx of Iron	2	
	<hr/>	
	93 $\frac{1}{4}$	
Volatilized in the fire	$4\frac{1}{2}$	
	<hr/>	
	97 $\frac{3}{4}$	
Loss	$2\frac{1}{4}$	
	<hr/>	
	100	
	<hr/>	

Its specific gravity is 2,357.

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Had I heard of these curious rocks when I was at Tokay, I should certainly have arranged things so as to have seen them more at leisure; but after keeping my driver a few minutes, I was obliged to continue my journey. A mile or two still further, I came to the stone quarry from whence the light white cellular stone, used at Tokay for building, is taken. It is what the Germans call hardened clay *, but cellular; the cells in some places are partly filled up with a fibrous substance like decomposed pumice. Is this rock a decomposed porphyry or basalt, lava, &c.? These never contain pumice, if this striated matter be pumice: it is certainly not a volcanic tufa? It has a few grains of pellucid quartz mixed in it, as some porphyries have, but they are very few. The shortest and most fashionable way would be, to call it boldly a decomposed Lava.

The country from Tokay to Maad is very pleasant, particularly soon after leaving Tokay, where on one hand you have hills covered with vines, and a fine plain variegated with woods, and the river Bodrog meandering through it on the other. In four or five hours I reached Maad, where I took up my quarters with Baron Orcy's steward, and

* *Argilla indurata Germanorum.*

Alba fractura inequalis, textura terrea impalpabilis, cultro facile rasilis, foraminibus mediocribus & parvis sparfis, vacuis, aut materia dilute ochracea friabili cariola fibrosa repletis.

Tubi ferruminatorii ope, et basis & concretiones vitrum album opacum præbent sine phosphorescentia aut intumescencia.

Obs. Particulæ paucæ Quartzæ pellucidi quæ sæpe in porphyriis inveniuntur, adsunt, sed raræ.

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in the afternoon, accompanied by a new acquaintance, who was to be my Cicerone, I went to Tallia; he was neither a naturalist nor a philosopher, and got so beastly drunk, that I was obliged to get rid of him. At Tallia I found another quarry of the white indurated clay; and in returning I observed a great quantity of fragments of whitish petroflex, containing vegetable petrifications or impressions, scattered about on a common. In the streets of Maad lay great heaps of a *breccia* of *petroflex*, some of which was very pretty, and of a greenish cast: it is probably used here for building. The Baron's cellar is formed in the white indurated clay.

From thence I went to Tolchva, which is only a stage distant. By the road side, near Liska, there is a bank of fine white sand, or a stone so friable as to fall readily into sand: from the demand for it, I suppose for household purposes, a great excavation has been formed. It feels very harsh between the fingers; under the blow-pipe it at first crackles, and then swells up to thrice its bulk, phosphorescing and producing a white light scoria that swims in water, which in a stronger fire is turned to a white glass. This is nothing but a kind of tufa, formed entirely of the detritus of pumice, or rather of something very analogous to it; it contains some small fragments of grey volcanic glass*. In some places it is much coarser, being mixed with

* Tufa.

Alba heterogenia terrea inequale-granulata asperrima valde friabilis, granulis Obsidiani nigri & cinerei rarius inspersis.

Tubi ferruminatorii ope crepitat intumescens ter volumen auget, phosphorescit, scoriam aquæ innatantem præbet, & in igne fortiori vitrum album.

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an imperfect kind of pumice in small fragments, and the grey volcanic glass *. This is covered by another kind, composed of fragments of pumice of the size of a pea, intermixed with a few fragments of the same grey volcanic glass, lightly cemented by an earthy ochre-coloured substance †.

Tolſchva is like Maad, a disagreeable ill-built town, and doubly disagreeable to me from the quantity of Jews in it. Though it only contains about 3000 inhabitants, there are 160 families of Jews, as a gentleman, who had been engaged in drawing up the *conscription lists*, assured me. A dislike to a people whose sole concern is gain; who consider cunning and deceit as estimable qualities, and are insensible to the beauties of nature, does not, I hope, indicate a bigoted mind. Jews are very common in Hungary, not in the great towns alone, but in the small ones, and in the villages. Some gentlemen will not suffer them on their estates, though they are always ready to give a higher rent than other tenants. In countries where they are restricted to the great commercial towns, where they have full scope for their trafficking

* Tufa.

Alba ex fragmentis minoribus & parvis Pumicis, in massa alba heterogenia terrea, inequale-granulata asperrima valde friabili; granulis Obsidiani nigri & cinerei inspersis.

† Tufa.

Ex fragmentis minoribus & parvis Pumicis, ope terræ ferruginæ friabilis, leviter conglomeratis.

Obs. Granulæ Obsidiani non omnino defunt.

talents, they do less harm : it is there pretty much Jew against Jew ; but when they get into small towns and villages, they do great mischief, and frequently ruin the peasants and lower kind of people, by furnishing them with luxuries on credit, and then artfully come upon them, and seize upon their property for payment. In Germany and Bohemia I likewise found too many of them fixed in the small towns and villages : how they swarm in Poland is well known. The Emperor Joseph was at great pains to make this people more useful, and less detrimental to the state, but he met with insurmountable obstacles. As a fair and honest disposition is of the greatest advantage to a nation, this should not be damped by examples of men getting forward in the world by being destitute of it. All religions, and all principles of morality and politics, are not equally beneficial to a state, and I can see no reason why the increase of a dangerous sect should not be prevented, or the whole stock removed.

I examined some hills covered with vineyards near the town ; they are composed of a reddish porphyritic basalt, which is seen in many places where the heavy rains have washed away the soil and formed ravines. The quantity of jasper found here is surprising ; the walls, or divisions of the vineyards are made by piling up great loose blocks or fragments of it : it varies much in its colours ; it forms veins in these porphyrous hills. In other neighbouring hills some attempts have been made in mining, which have not been crowned with success : one gentleman has lost near two thousand pounds,

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almost all he had to lose. Near these mines I found another bed of the white clay, but here it was so little indurated, or rather so much decomposed, as to crumble between the fingers. Not far from hence I picked up some globules of *Obsidian*.

In the walls of the houses, and in the streets, I noticed a very beautiful breccia *, formed of small fragments of a lively green-coloured petrosilex, united by an almost imperceptible coating of chalcedony.

I should not have staid here above half a day, for the squire of the place, Mr. Sirmay, for whom I had a letter of introduction, was not at home, but no horses were to be had: they were all employed in transporting the *don gratuit* of corn made by the nobility to the emperor†, and on this account I was detained a day longer, and then I went to Uihelly with Mr. Berhelly, the gentleman who was both

* Breccia.

Ex fragmentis minoribus Petrosilicis viridis cultro vix rasilis scintillantibus, ad angulos subdiaphanæ, & paucis Jaspidiæ rubræ, ope Chalcedonii albo-cærulescentis vix nudo oculo discernendi, conglutinatis.

Tubi ferruminatorii ope color viridis evanescit, & ad angulos vitrum album præbet.

† This is another grievance under which the peasants labour; and at particular times and on particular roads it is a very severe one. They are obliged to transport the ammunition and provisions for the army, and every thing that is for the public service, and they receive still less pay than from travellers.

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my host and Cicerone, as he, and some more gentlemen of the town were going to the county meeting. We made a large party, a whole waggon full; for this was the vehicle of conveyance. The subject of conversation on the road were the Germans, who had been settled here by the Emperor Joseph, against whom they raised great complaints for having neglected and mismanaged the farms which had been given them; I was hardly suffered to say a word in favour of German industry, though my companions acknowledged that against the German colonies, planted by the empress Theresa, they had nothing to say.

On the road I found several kinds of Basaltes, one so glassy as to be almost a *pitch-stone*, and the *Saxum metalliferum*, but the mica so fine as to require almost the aid of a lens to be visible, and a Porphyry* which has the white indurated clay for its base; but this is so hard as to give fire with steel: it contains large grains of pellucid Quartz and Feldspar, or rather Adularia. This was only a ride of four or five hours; we passed by Patax, where the Calvinists have a college which is only inferior to that of Debretzin, and the ruins of an old fortress, which formerly belonged to Rakotsy. Corn, Indian wheat, and potatoes, were the produce of the plain through which we passed.

* Porphyrius.

Ex argilla indurata alba, cultro vix rasili facile scintillanti, particulis parvis amorphis Quartzii pellucidi & parallelopipedis Adulariæ.

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I was as unfortunate at Uihelly as at Tolschva. Dr. Weis, physician to the county, for whom I had letters of introduction, was out, and as there was a fair here, as well as a county meeting, the inns and alehouses, if such existed, must have been full; but I had no loss in the doctor's absence except that of his company, for his lady received me in the most friendly manner, and was as kind to me as a mother.

There are some very high hills close to the town, which go under the name of Schator; as I recollected to have read in *Mr. Born's Catalogue Raisonné* of a "*Granite altéré par le feu volcanique*," from a mountain of this name, I immediately began to hunt after it. I ascended two or three of the highest, but I found nothing that could be considered by the most *fiery* mineralogist to have been a granite. I saw nothing but porphyry* of a reddish brown ground, well charged with particles of *Adularia*, and scattered with small crystals of black *Hornblende*; the white particles having rather a roundish than a parallelopipedal form, I suspected them to be *Leucites*, or white Vesuvian Garnets, but they melt with the blow-pipe like *Adularia*, and have a sparry appearance when viewed with a *lens*.

* Porphyrius.

Ex Jaspide? hepatica particulis albis subdiaphanis *Adulariæ*, & sparsis cristallis parvis *Hornblendæ Basaltinæ*, compositus.

Tubi ferruminatorii ope basis scoriam albam, & concretiones albæ vitrum diaphanum, præbent.

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In this town there is another quarry of the white indurated clay, which is here likewise used for building ; it is not cellular, like that of Tokay, but almost as soft as chalk ; carefully examined, and with a lens, some fine black mica may be perceived. My host cultivates the *Isatis tinctoria* for making indigo. I stayed here two or three days in hopes of his return, but I was altogether deprived of the advantages of his acquaintance.

Where civilization is backward, there the government is obliged to extend its attention to things which at another period it leaves to the care of the public. In Hungary, as in some other countries, the health of the public is an object of care of government ; and in each county there is a physician appointed and paid by it, who has surgeons under him. In the smaller towns the physician's salary is forty pounds a year, and the surgeon's twenty, besides other advantages, and their practice. At Uihelly the Sclavonian language begins to be general.

July 5th, I set out for Telkobanya ; the vineyards soon disappeared, and the sides of the hills were then covered with underwood instead of vines. The vallies between the hills were part corn, part pasture land. The road as far as Balhasy is frightfully bad. Here I changed horses and ate some eggs, the only thing the village afforded. The peasants were met at the judge's cottage to adjust some differences concerning the extent of a field or farm. I have
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often admired the respectable conduct of the Hungarian peasantry; I never observed in them any of that ferocity of which they are accused in Austria, nor that mean and sneaking disposition, though they treat their superiors with great respect, which one might expect to find in a peasantry hardly emerged from a state of bondage.

Soon after leaving this village, there is on the right hand, overhanging the road, a most remarkable rock: it is a strange mixture indeed; a *Breccia* composed of fragments of glassy *pitch-stone* (*pechstein*), both compact and cellular, both grey and black, scattered with parallelopipeds of *adularia*, with fragments of *pumex*, and here and there fragments of a porphyry with a base of reddish white *petrosilex* with grains of pellucid *Quartz*. These fragments, more heterogeneous in their appearance than in their nature, are imbedded in, or cemented by, a mass no less curious; it is in appearance like sand-stone, or rather granulated *Quartz*, in some parts, particularly if viewed with a lens, it has a contorted fibrous texture, in other parts it is more like *pitch-stone*, but diaphanous and somewhat granulated; where it is most compact it strikes fire. Though this *Breccia* appears so very heterogeneous, yet it is very homogeneous in its nature; the fragments of the different coloured *pitch-stones*, and likewise the *pumex* and the cementing matter, are all of the same nature: they all intumesce under the blow-pipe with phosphorescence, and form a white light scoria which swims in water: some swell by

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heat to five or six times their original bulk.—Here we have again Mr. Fichtel's *zeolites*, and some part of this mass is his black fibrous pumex-like zeolite mentioned by him page 653. This gentleman there makes this just observation, that "all these zeolites, from the light grey to the coal black, run into one another; and I have," says he, "collected a suite of fourteen specimens, in which each variety is closely connected with another, not only in colour, but likewise in texture."—In what countries are such fossils found, and in what catalogues do we meet with such fossils described? Is it not in indisputable volcanic countries, and often where the fire still rages; and in the catalogues of their products? *Neptunismus*, to which I am ready to attribute much of the formation of our globe, or rather of its thin epidermis, with which we are only acquainted, must somewhere cease, and *vulcanismus* begin; and the only difficulty, and where the learned so little agree, is, where shall the one cease and the other begin? I always thought with the great Linneus, "*Ubique pumices copiosiores, ibi quondam vivi vulcani exsistere, licet dudum emortui & oblivioni traditi.*" This curious rock appeared to rest on the decomposed argillaceous porphyry.

A little further on are rocks formed of large blocks of basaltes; and still further, I found a great many loose fragments of filix or petrofilex, containing impressions of organic bodies.—Early in the evening I reached Telkobanya, a large ill built village or town. I

took up my lodging, as there are no gentlemen here, with the Judge, and he let me have the best he had, which was very little; a straw bed on the floor, milk and eggs and coarse bread.

I came here in search of the Telkobanya *Chrysope* and *Waxopal*, but I sought and sought in vain. I could find nobody here who knew any thing of it; and afterwards I learnt that it is found three or four miles off. But as Mrs. Weis, my last hospitable hostess, had given me a handsome provision of it, I was less anxious about it, and Mr. Fichtel has informed us how it is found. His account is this, that in the Gfcherhezy-Farka hill, which is composed of that kind of zeolite which I found near Tokay, there are very large veins of jasper, some so large as to form rocks (probably like those I saw near Tolschva): in some places it is half decomposed and cellular; in this, this beautiful fossil is found; sometimes forming veins, sometimes nodules, and these latter vary in size from the size of a man's head to small grains. The veins of jasper this gentleman considers as streams of lava, and supposes the opal, which it contains, to be afterwards formed by percolation.——The red fort, which Mr. Born places amongst the pitch-stones, is found on the Feketehegy hill, ten or fifteen miles from Telkobanya. This supplies here the place of the jasper, forming entire and large veins, but the hill itself is Porphyry.

Though I did not find what I principally came for, yet I found here some interesting fossils, not mentioned by Mr. Fichtel.—Close to

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the town are zeolite rocks like those near Tokay. In one place, where it is of a more earthy appearance, it is very cellular, and the cells are uncommonly deep and close together, quite like a honey-comb. The blow-pipe shewed it, however it differed in appearance, to be of the same nature. A little further from the town, I found a bank of very fine white stone, like that near Liska, but still finer; were it not for its harsh feel, it might be taken for chalk, it is so very fine: the blow-pipe shows its nature at once, it intumesces greatly.—Further on, in a deep ravine, I met with a rock as curious as any I had hitherto seen. It was a breccia of fragments of an imperfect kind of pumice, in which the silky appearance of this fossil was very evident, though it had but little of its fibrous texture: this forms the greatest part: this is mixed with a much smaller quantity of the grey glassy pitch-stone: these two by degrees pass into one another. These fragments, which are from a quarter of an inch to a pin's head in bulk, seem to be cemented by a very thin glassy coating, but still of the same nature. In some of the beds, where all the parts are smaller, it looks just like a sand stone; and I found a thin bed about half an inch thick, which might easily be taken for granulated quartz: this gives fire freely with a steel. Here again, however heterogeneous the components of this fossil may appear to the eye, they are not so in their nature; they all greatly intumesce under the blow-pipe, and form a white scoria. Besides these rocks, I found some loose blocks of the ash-coloured glassy pitch-stone passing into pumice; in some parts, particularly if broken in a certain direction, it has nothing of

of a fibrous texture ; but this, in other parts, is quite evident : it is scattered with parallelopipeds of *adularia*, and, if carefully examined, a few particles of black *mica* may be seen. Another kind was much more like pumice : the contorted fibrous texture in this is here and there very evident ; it is likewise scattered with a few particles of *adularia* and black *mica* with grains of pellucid *quartz* ?

In one of my excursions in search of the Telkobanya yellow Opal, I met with a vein of jasper, but a jasper approaching to the pitch-stone ; in the middle of a fragment of this, there was a small piece of the *Milk-Opal* which had some degree of *fire*. This situation agrees with the account of Mr. Fichtel, relative to the situation of the Telkobanya Opal. In the road to Caschau there are great blocks of Petrofalex, or something between Petrofalex and Chalcedony, containing great abundance of vegetable petrifications. I knocked out of one of these blocks a piece of petrified wood near half a foot long, and an inch in diameter ; its fibrous texture was very evident.

I only staid a day at Telkobanya, and the evening after my arrival I left it for Caschau, which is two stages distant ; but as no horses were to be procured, I was obliged to take up with oxen. I think there is not a greater *secatura* a poor mortal meets with in this vale of tears, than that of being obliged to travel slow when he wishes to travel fast ; and besides the slowness of the progression of these animals, they indicated by their actions, that they had views quite

quite opposite to mine; wishing to stop when I wished to go on, and to turn to the right when I wanted to go to the left: they carried their obstinacy so far as to endanger the waggon, but not my neck, which I thought proper to secure by walking on the outside of it. I never wish to travel post again with horned cattle. Half-way, with some difficulty, I exchanged my oxen for horses. A large party of recruits were halting here for the night; they were so strictly watched that they were obliged to ——— in the street before the door of a barn, which was to be their shelter for the night. I enquired of a man, whose attention they had likewise attracted, what they were.—O, Sir, said he, you *see* they are *volunteers*.—It immediately brought to my recollection a circumstance which happened a few years ago in the Highlands of Scotland, where a great Highland chief thought proper to raise a regiment, and to complete it, I imagine, the quicker, sent his peasants, *nolens volens*, as soldiers. Some of these, in whose breasts the martial spirit was extinct, and who had but little ambition for military glory, he sent in a cart, bound or hand-cuffed.—Well, said a traveller who met them, what's all this; what are you doing there my lads?—O, Sir, replied they, we are only his Grace's *volunteers*.

This was Saturday, and the inn, or ale-house, was kept, as they often are in this part of the country, by a Jew. I walked in, and found it, as I expected, a filthy place. I called for something, it was brought me by a Christian girl, and when I wanted to pay the
mistress

mistress for it, she made me lay the money on the table, but as I saw no more on it, I imagine at her leisure she would put it in her pocket.——Religion, what art thou?——but too often a substitute for moral goodness!——What should thou be?——a penal code to vice, and a declaration of reward to virtue.

I now travelled on with my unhorned cattle a little faster. The road passed through a broad valley, with high hills at some distance. Whether these were of volcanic, or of neptunic origin, I cannot say; but about a mile on this side Caschau, there is a paltry stone-quarry, and here the rock is a kind of *Micaceous Schistus*, where the *Gneissum micaceum*, & *Gneissum fornacum* are mixed together.

C H A P. XIII.

CASCHAU—BATHS OF RANK—OPAL MINES—REMARKABLE
CAVERNS, &c.

CASCHAU is the metropolis of Upper Hungary; the principal street is very broad and pretty regular, and contains some very good houses of the nobility, and an elegant coffee-house, over which are the assembly rooms. The inhabitants are only estimated at about six thousand. The principal church is the only thing worth seeing here: it is in Gothic taste, and in good preservation. But the Black Eagle is another public building which interests the traveller; this is an inn where the hungry traveller may find something to eat, which is not always the case with inns in this country; but I made little use of it, from the hospitality of the Countess Sirmay, Dr. Fucker and others, whose houses were always open to me. Many of the inhabitants of this town are protestants; but they are not such strict observers of the Sabbath, as not to frequent balls and routes on the Sunday. I walked into the assembly rooms on the Sunday evening, but on account of the fine weather the company was very small. The suite of rooms is fine. The good people come here to eat as well as to dance, and the eaters are the most numerous; and the

the gentlemen are allowed to enjoy a comfortable pipe, but not in the ball room, where it is notified in large characters that smoking is not allowed. I staid whilst a few minuets were danced ; they are danced in the German style, at the rate of three miles and a half to four miles an hour.

Czerwenitza, the country of the true Opal, is only a short day's journey from Caschau ; I could not therefore avoid making an excursion thither. Rank, which has a mineral water, lies nearly in the road : this I took in my way, as Baron Vechey, whose post constitutes him director of the Opal mines, and who alone could give me permission to examine them, was taking the advantage of these waters. Rank has poor accommodations for valetudinarians ; they are obliged to bring every thing with them, bedding, cooking apparatus and provisions. I just arrived as the Baron and his party were sitting down to dinner. I was invited to make one of them, which I did without much entreaty, as I should otherwise have fared very ill, not having brought any thing with me. It is chiefly frequented by those Caschauvians who have not time to go to Bartfeld, which is the great watering place of this part of Hungary.

The waters of Rank are chalybeate and aërated ; they are taken inwardly, and used warm for bathing. But, as in most watering-places, it is the cheerful company, exercise, &c. which make the most cures. One of these *etcæteras* some of the sick had brought

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with them. I made the acquaintance of a very handsome young lady of nineteen, who had been lately married to an old infirm *Septuagenaire*, who had grand-children almost as old as his wife. Finding herself ill, at least *incommode*, she was come here for the benefit of the waters, and had brought with her, for disorders under which she laboured, the ablest of physicians, a stout handsome young fellow. She gravely told me, after informing me of the state of her connubial connection, that she had found great benefit from the waters, but must acknowledge, that the *regimen* she had followed had not a little contributed towards her recovery. The only moral observation I would make on this occasion is this, that old and infirm men should not marry young women, if they would not be cuckolded. This advice is as proper for Britain as it is for Hungary.

After dinner I examined some very bold cliffs in the neighbourhood: they are of a *breccia* like that about Gran, which I have so repeatedly mentioned: in some places there are needles or spires of it almost detached from the main rock. Here it is plainly seen that this *breccia* is not a mere superficial covering to other rocks, but constitutes rocks itself. I slept at Rank: a clean sheet thrown over some straw, was all the bed I could procure; and for this, and some bread and butter and common wine, I was charged about two shillings.

In the morning, as soon as it was light, I continued my journey,
full

full of expectation, to the country of Opals. I stopt at the house of the priest of Czerwenitza; for this is a poor miserable village, and has no kind of public house; and from thence on foot I ascended a large swelling hill of considerable height towards the Opal mines. As I ascended, I found the rock to be formed of decomposed Porphyry and *Trafs*. The hill is some miles in extent, and has been opened in several places, but in three with the greatest success; and here guards are placed, who receive about six-pence a-day, to prevent any one from digging for this precious stone. Formerly the peasants were allowed to search for them on their own account; but within these few years, as this land belongs to the royal domains, the emperor has prohibited it, and they have been dug for on his account. Now again this has been discontinued for these last three or four years, the servants of the crown finding that the royal treasury suffered by it.

As I had obtained permission, I found no difficulty in satisfying my curiosity. In one place this precious stone had been sought for by mining; but this was only by a gallery of a few yards in length: in most places the rock is taken out as in a common stone quarry, and they seldom go deeper than three or four yards*. The holes I saw,

* So I find it noted in my Journal. Delius gives nearly a similar account: he says, that the rock which contains the Opal lies under the soil, and seldom extends deeper than a few fathoms. But Mr. Fichtel says it is quite the reverse, and that the upper bed, for about four yards, is unproductive, so that this precious stone is only found after this bed has been dug through.

where they had been digging, seemed to be without any plan. The rock is thrown out, and then broken and examined. I am surprised Mr. Born can say, in his *Catalogue Raisonné*, under the article *Opale*, "*La matrice est une terre argilleuse grise et jaunâtre mêlée de sable.*" It is nothing more or less than an argillaceous decomposed porphyry: I wonder he did not here recognise his *Saxum metalliferum*. In some specimens I could plainly distinguish both the feldspar and some few particles of hexangular glimmer; though in others the decomposition is so far advanced, that nothing of a porphyrous nature can be observed. One of the excavations, made in search of this valuable fossil, is in an undecomposed basalt, or something between a *wacke* and a basalt; but here nothing had been found.

Several very different kinds of Opal are found here, and some of no value to the jeweller; yet they have all one common origin, however different their value and brilliancy of colours: they form small veins, nests, grains, &c. and it is where the Opal is mixed in small particles, but close together in the stone, that it forms what is called Mother of Opal. It is likewise sometimes found in the same manner in a kind of breccia of this decomposed porphyry. As these mines, or quarries, had not been worked for these last three or four years, I had no expectation of finding any thing; but the views of the naturalist and the jeweller are very different, and I found some specimens which, though of no value to the latter, would be highly prized by the former.

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The different kinds pass insensibly into one another. I collected the following: The true Opal * disseminated in the matrix; the *Water-Opal* † and *Milk-Opal* ‡ in one vein, and these passing into the true Opal: the *Water-Opal* § tinged of a beautiful lavender colour; another of a topaz colour ||, and most of these in a state of decomposition, being so many *Hydrophanes*. I have a *Milk-Opal* ¶ which, on immersion in water, acquires the fire of the true Opal; another *Milk-Opal* **, which by a similar procedure immediately becomes a *Water-Opal*; another *Milk-Opal* ††, but without the lustre of Opal, which acquires lustre by an immersion in water, and

* *Opalus nobilis*.

Splendens, colorum vividorum viridi violacii & aurantiaci, pro situ spectatoris variantium fulgens.

† *Opalus hyalinus*.

Splendens, hyalinus.

‡ *Opalus lacteus*.

Splendens, diaphanus lacteus.

§ *Opalus violaceus*.

Splendens, diaphanus colore dilutiore florum lavendulæ.

|| *Opalus luteus*.

Splendens diaphanus colore topasii.

¶ *Opalus lacteus*.

Splendens diaphanus lacteus, aqua imbutus coloribus Opali nobilis fulget.

** *Opalus lacteus*.

Nitens subdiaphanus lacteus, aqua imbutus *Opalus hyalinus* evadit.

†† *Opalus hebes*.

Hebes opacus albus, aqua imbutus *Opalus nitens* diaphanus lactescens evadit.

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thus becomes a true milk opal; another* of nearly a similar nature, but brown, which acquires likewise by immersion in water a considerable degree of transparency; and the same so terreous and soft as to be scraped with the nail, yet on immersion acquiring some degree of fire.

It is now generally supposed that all the more valuable Opals, which pass in commerce under the name of Oriental Opals, are from these mines. Tavernier says † “ *Pour ce qui est de la Hongrie, il y a une mine d'où l'on tire des Opales; & il ne s'en trouve en aucun lieu de la terre qu'en celui-là.*” Mr. Fichtel is of the same opinion, and he says ‡ there are papers in the archives at Caschau, which show that, about four centuries ago, three hundred men were engaged in these mines, and by this endeavours to account for the quantity that has been for so long a time in the market. If so, then perhaps I have trod on the very rock which produced that Opal, to obtain which, Antony could proscribe a Roman senator; and to keep which, a Roman senator could suffer banishment. It is certain, however, that some other countries even of Europe produce them, though not probably of the first beauty.

* *Opalus ferrugineus.*

Nitens subdiaphanus ferrugineus, aqua imbutus diaphanus ferrugineus evadit.

† *Seconde partie, page 293.*

‡ *Fichtel's Mineralogische Bemerkungen von den Carpathen, page 595.*

After wandering about these hills for three or four hours (for the mines are scattered about in different parts), I returned to the priest's to dinner; and from thence I went to Pecklin. Here, where I was to change horses, none were to be got; and, after waiting a good while, I was obliged to continue my journey with the same horses; it was soon dark after setting out, and I had to pass through thick woods and bye-roads; yet I was neither robbed nor overturned, but it was eleven at night before I reached Caschau. Near Pecklin the soil is so unfruitful, that two thousand square fathoms are allowed for an acre. The woods, chiefly of oaks and beeches, are divided into falls of fifty years.

Saturday, July 12th, I left Caschau; but I again left the direct road to the Carpathian Alps, and struck off to the west. I was induced to this from hearing at Caschau, and not from the vulgar, but from learned doctors and professors, that at the distance of about a day's journey there were two great caverns; in one of which water froze during the summer, and ice thawed during the winter: whilst the other was so vast that one might wander about in it for a week without finding an end. Soon after leaving Caschau, I came to a quarry of the *Corneus fissilis* of Wallerius. At Cfees, where I changed horses, the road began to draw nearer the hills, and the country became more pleasant: this is chiefly a corn country, Indian wheat was a good deal cultivated. Early in the evening I reached Nadaska, the seat of Countess Giulais. The hills here, which are very high, are of unstratified compact limestone, without any petrifications, but

it is full of holes ; some of these are so deep, and at the same time so round, that they look as if they had been formed by art. I passed the evening in a very dull manner ; a rough gloomy priest was come here to be ready to perform divine service the next day ; and though he ate copiously himself, he allowed none of the family to do so ; and the Countess, and her niece, who was a very nice girl, and spoke very good French, who were all that sat down to supper, fasted. I was a dreadful thorn in the side of this fellow, and vexed him grievously by eating a hearty supper, the whole of which he seemed to wish to possess.

Next morning I set out again for the caverns. I travelled at the foot of the same chain of hills ; now and then some *Schistus* made its appearance, but in general the lately mentioned limestone prevailed. About half way I changed my horses for oxen ; but as they were only to draw me, or rather my baggage, over a high hill, where horses could have gone no faster, I did not suffer as in the last horned cattle expedition. About one o'clock I reached Akteleg, and I took up my quarters with the Calvinist parish minister : he knew not a word of German, much less French or English, only the Hungarian and the Latin. Though this was Sunday, and the villagers were Calvinists, they were dancing and making merry.

I procured a guide, and the same evening I entered the cave ; but it was chiefly with a view to ascertain the medium temperature of this part of Hungary. The thermometer in the shade, in the open
air,

air, stood at 15 above 0 of Reaumur, but in the cave, a good way from the mouth, immersed in a running stream in different places, it stood at seven degrees; yet out of the water by the side of the rock it stood at seven and an half. Shall we suppose that all, or part of this water, came from melting snow, which, hid in some deep hole or cavern, had now only begun to thaw? this would render every experiment fallacious: or shall we suppose that the rock, however thick, was nevertheless affected by the heat of the atmosphere? As I left my thermometer an hour, it certainly, as it had but a small bulb, had time to take the true temperature of the medium which it was in. The water in the wells in the village was eight degrees. The above observations, though rendered less decisive by this difference, agree pretty well with those made by Mr. Haquet on the medicinal waters of Bartfeld: he says, "at six o'clock in the morning, the water was ten degrees of Reaumur colder than the atmosphere, which was then 16 degrees." This brings the temperature of the waters to six degrees, which is a degree colder than that of this cavern; but Bartfeld is about half a degree of latitude further north, and in a more elevated situation.

In the morning I returned to the cavern, to see how far I could penetrate into it, and to repeat my experiment with the thermometer, but by accident this was left behind. The report here is, that this cavern extends several miles under the hills, and that it would require several days to see the whole of it. The mouth of it is at

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the bottom of a precipice about 150 feet high, at the west end of a compact unstratified limestone hill, which runs east and west. This entrance is about two yards broad, but so low that I was obliged to bend considerably to get in. I descended rapidly for a short distance, and then I found myself in an immense cave, with a very lofty vault; this has in different parts communication with other caves and passages, and these again with others. Some of these caverns are over one another; in some places I came to considerable streams of water; in one great cave my guide conducted me over a hill formed of great blocks of stone, which most probably had fallen down from the roof: in one place I had to get down a hole like the funnel of a chimney; then I was led into a cave where large stalactites, as thick as my body, hung pendent from the roof, and I was shown others where the sides were ornamented in the manner of the most curious Gothic workmanship. In some the stalactites were so thick and close together, that we were in danger of losing one another if we separated but a few yards. Here aged stalactites, overloaded with their own weight, had fallen down, and lay prostrate; and there an embryo stalactite was just shooting into existence. The most curious cavern was one apparently of modern date; the sides, and particularly the roof, seemed as if recently separated: and it was probably so, for I think most of these caverns have been formed by the falling in of the rock: very white and slender stalactites were only found here.

After

After I had wandered about for three or four hours in this awful gloom, and had reached the end of the caverns in one direction, I thought it time to come out, and I desired my guide to return. After we had returned, as we thought, some way, we found no passage further; yet the guide was sure he was right. I thought I recognised the same rocks we had just left, and which had prevented our proceeding further, but the guide was positive he was in a right direction. Luckily for us I had written my name on the soft clay of the bottom of the cave, which had been the extent of our journey; on seeing this the guide was as thunderstruck, and ran this way and that way, and knew not where he was, nor what to do. I desired him not to be frightened, but to go calmly to work to extricate us from this labyrinth. As the wood which we burnt instead of lamps was nearly exhausted, and as I never adverted either to one of the guides whom we had left above, who by being charged with wood could not get down the funnel-like hole, being so near; nor to the people of the village being acquainted with our being in the cavern, who no doubt would have taken every possible means of coming to our assistance had we stayed much longer than usual, I was a good deal alarmed for our safety, and there was good reason; had our torches gone out, we should never have been able to find our way out; nor, had any accident have happened to our guide, could we by ourselves, though we had had lights, have had any hopes of extricating ourselves. After wandering about till all our wood was nearly exhausted, we found a great stalactite from which, on account

of its remarkable whiteness, I had been induced to knock off a specimen as I came by : I recollected how I stood when I struck it : this at once set us right ; and after walking a little further we made ourselves heard to the other guide, from whom we got fresh torches, and we then continued our route homewards without further difficulty.

So complete a labyrinth as these caverns are in some places, is not I am sure to be found but in similar caverns : large open passages proved *cul de sac*, whilst our road was over and under, through and amongst grotto-work of the most intricate nature. I firmly believe, that though a man should have lights and food enough to last him a month, he would not be able to find his way out.

On the soil at the bottom of the cavern, my guides shewed me impressions which, they said, were from the wheels of a carriage. I thought immediately to have detected the error by measuring the distance of the marks of the two wheels at different distances : but I was mistaken ; the marks were throughout parallel. Whether these were really the marks of a carriage I cannot say : I only observed them in the first part of the caverns. If the soil at the bottom at the mouth of the cave was taken away, I do not see any impossibility, through the assistance of men, to get such a thing in thus far. It is known to have served as a hiding-place to the weak and unfortunate in time of war, and a fitter hiding-place there cannot be.

I thought

I thought it probable that I was the first English traveller who had examined this immense cavern; but Mr. Korabinsky says *, "that it is of such astonishing dimensions in length, that two members of the Royal Society of London, who were sent some years ago into Hungary by the Society, to examine this and other curiosities, after remaining in it three days, could never get to the end of it, nor find an opening."

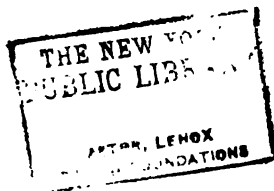
After dining with the pastor, who seemed to possess but a small portion of the good things of this world, I set out for the other famous cavern near Szilitze. I travelled by a bye road through a pleasant, hilly, and woody country, chiefly with pasture land. There I saw again my favourite little animal the Earless Marmot, which I had not seen since I left the great plain. I reached Szilitze early in the evening, and as before, I asked hospitality of the Calvinist minister, who likewise only knew his own language, the Hungarian, and the Latin. He seemed to be in more easy circumstances than the last, and to be a considerable farmer: all this district is inhabited by Calvinists. As the cavern is a mile from the village, I deferred seeing it till the next morning, when my host, who had nothing of the four Calvinist about him, accompanied me.

The immense vaults, and the glittering stalactites arranged in

* Lexicon von Ungarn, page 6.

Gothic style, of the last cavern, are not to be sought for here. This is only famed for possessing the remarkable nature of being *really* colder in summer than in winter; so that when the north east in winter blows, and the whole country is defaced with ice and snow, then the ice within this cavern begins to thaw; but when the parching heat of the canicule reigns, then its dripping rocks begin to be adorned with pellucid icicles.

This is not the opinion of the vulgar alone, but, in this country, of the learned likewise; it has even reached our country, and found its way into our Philosophical Transactions. The celebrated Hungarian historian Matthew Bell sent the following account of it to the Royal Society, who have inserted it in the 41st volume. “*Natura Antri id habet prodigii, quod cum extus bruma intensissime riget, tepido sit intus aëre; frigido contra, immo glaciali, cum sunt fervidissimi soles. Nimirum, simul diffugientibus nivibus verinire cæpit, interior antri concameratio, qua ea meridiano soli dorso objicit, aquam limpidam et passim distillantem exsudat: quæ, interni frigoris vi, in pellucidam glaciem concrefcens, stirias efficit, ad ingenium doliorum molem crassas, ac pendulas, inque ramos abeuntes miris illusos speciebus.*” And further adds, “*Glaciale istud specûs ingenium, totum æstivum est: quod ideo admirationis habet plurimum; augefcit enim cum increfcente solis ardore. Primo, nimirum, vere, hibernus ille tepor cessare; mox, ubi id adolevit, intendi frigus occipit, tantis accessionibus, ut quo magis aër incalcfcit, eo antrum frigeat exquisitius.*”





The Cavern of Sedwitz near Gzilitze.

*quisitius. At ubi æstas iniit, jamque fervet canicula, in glaciale
brumam intus abeunt omnia."*

This account agrees perfectly with the information I received at Caschau, and with what I heard on the spot likewise. Yet I know I shall have no difficulty to persuade Natural Philosophers of the present day, that there is a fallacy in the observations, and that this has arisen from depending too much on our feelings, and neglecting the only proper gage of heat and cold, the thermometer.

This cavern is about a hundred feet broad, a hundred and fifty deep or long, and twenty or thirty feet high at the mouth or entrance which faces the north: the descent is pretty rapid, the last third part of the bottom or floor was covered with ice; but this was so thin that I could see the rock under it. From the roof at the further end, which was here much lower than at the entrance, hung an immense icicle, or rather a congeries of icicles; and in a corner to the right, which was not only deprived of the influence of the sun, as the whole cavern is, but likewise of light, there was a great mass of ice. It was a fine forenoon when I visited this natural ice-house, and the air was heated by a July sun: as soon as I approached the mouth of the cave, I felt a chill, which increased the further I went in, and which rendered my continuance there, to observe the state of the thermometer, very disagreeable.

Ice.

Ice I truly found here in abundance, and it was near midsummer, but in a state of thaw: the bed of ice, which covered the floor of the cavern, was thinly covered with water, and the icicles dropped: every thing announced a thaw. I had no need to use my thermometer: however, I placed it in the ice, and it fell to 0 of Reaumur; I then wiped it and placed it in a niche in the rock, at the further part of the cavern, a yard above the ice, and here it remained near an hour: when I returned I found it at 0. Thinking it might not have had time to take the real degree of heat of the medium in which it was in; I tried this by breathing upon it till it rose one degree above 0; I then left it for a quarter of an hour only, and when I returned I found it again at 0. Every thing here, therefore, ice, water, and the atmosphere in the neighbourhood of these, had the same temperature, and that was the temperature of melting ice, 0 of Reaumur.

When then is the ice which is found here, and in such quantities that this cavern serves the few opulent nobility in the neighbourhood as an ice-house, formed? Surely in winter, though not by the first frost, not so soon as ice is formed in the open air. No doubt, from the little communication this cavern has with the atmosphere, it will be but little and slowly affected by its changes. Should, therefore, Mr. Bell, or any of his friends, have come here to verify the common report at the commencement of a severe frost, when the whole country was covered with ice and snow, they might still have found here nothing but water, or the ice of the preceding winter in a state of thaw, and the

the cavern relatively warm: and likewise, should they have visited it in a warm spring, which had succeeded to a severe winter, they might have found nothing here but frost and ice; and even the fresh melted snow, percolating through the roof of this cavern, might again have been congealed to ice.—I observed frequently in Germany, in the severe winter of 1794-5, on a sudden thaw, that the walls of churches and other public buildings, on the outside were white, and covered with a hoar frost, and their windows on the same side covered with a rime. I certainly should not have said so much on this subject, were not the opinion I have been combating so very general. This cavern is like all that I have seen, in a primitive or unstratified compact lime-stone; and it is curious to observe, that the most famous in the world are in this kind of rock. I think they arise from the rock, whatever that may be, giving way which supports them.

The minister had a good deal of the *Dianthus deltoides* drying in the window; he called it Centaurea, and said it was much used, steeped in wine, for the ague.—Near the house-door a great block of salt was placed: when the cows came home, I observed them walk up to it and lick it. He told me, that if the common peasants did not use it, it was because they thought it too expensive.—In the afternoon I set off for Rosenau, and my host bore me company. We continually descended, and for a long way by a very steep road, into a well cultivated valley. A fine stream of water

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which

which runs through it, has induced some Smelters to establish iron furnaces here. The ores smelted are the white sparry iron ore, *Ferrum spatiosum*, and the blood stone *Hematites*: low furnaces are used.——This valley separates the calcareous mountains, which are not metalliferous, from the schistus, which are. The bold perpendicular cliffs of the former easily distinguish them from the latter. I reached Rosenau in the evening.

C H A P.

C H A P. XIV.

ROSENAU—SCHMÖLNITZ AND ITS MINES—IGLO—LEUTCHAU,
AND MISFORTUNE THERE—COUNTY-MEETING—REPRESENTATIONS AGAINST DIMINISHING THE LIBERTY OF THE PRESS, ETC.

ROSENAU is a small, but pretty well built town, and the seat of a bishop. Formerly it had in the neighbouring hills some very considerable mines: some of these are now no longer worked. I have in my collection a few specimens of cinnabar, said to be from hence, of the most lively red; but the cinnabar mines are no longer worked. The mines of antimony are very rich; they yield annually about 2000 cwt. which is sold for $10\frac{1}{2}$ guldens (about a guinea) the hundred weight. The ore is of two sorts, a steel grained *, and a striped †. The inn here was pretty good.

I only spent half a day at Rosenau, and then continued my journey to Schmölnitz. Just without the town there is an old castle in

* Stibium vulgare. Syft. Nat.

Var. α . Textura subtilissime granulata.

† Var. γ . Textura radiata, Radiis parallelis splendentibus $\frac{1}{2}$ pollicis latitudine æquantibus.

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ruins:

ruins: this is seated upon a calcareous rock, which is quite disjoined from the great calcareous chain, and connected with the schistus. On leaving this I ascended for two or three hours by a winding road, and entered a mountainous country: argillaceous and micaeous schistus seemed to be the materials of these mountains. As I ascended, oaks and beeches, the trees I had always hitherto found forming the woods, disappeared; and as soon as I had passed the top, the fir supplied their place, and these were the first I had seen in Hungary. They gave the country a quite different aspect; the hills put on now a dreary and wild appearance, and some dark clouds coming on, increased the contrast of the northern and southern side of the mountain. These fir woods have not yet been divided into regular falls; but this is to be done soon, and into falls of seventy years. They are a good deal frequented by bears.

Schmölnitz is an old irregular ill built town, and the public house wretched. The town is situated in a narrow valley, and in the hills on each side, which are of argillaceous schistus, are the copper mines, which formerly gave existence to this town, and now support it. The copper ore, which is the *Cuprum fulvum*, is not only dug, but it is smelted here, and made into copper boilers and similar common utensils. The remains of an amalgamation apparatus are here, but the ores containing silver are now sent to Neusohl.—The copper gained by cementation amounts annually to twelve or fifteen hundred hundred weight. Most of the water in the mines is impregnated with copper vitriol,

vitriol, which is conducted into old galleries to be further impregnated: about a hundred and sixty pounds of iron is consumed in forming one hundred pounds of copper. Seven shillings per cwt. are paid for new iron, and five shillings for old.

I went into a mine of iron Pyrites in a state of decomposition; our lamps going out through the badness of the air, we had a sufficient hint not to proceed very far; but the heat even here was great, 23 degrees above 0 of Reaumur.—Though I find no note of it in my Journal, and the thing is almost obliterated from my memory, yet I cannot pass over in total silence, that in this schistus I observed in one place a very large thick vein of an imperfect kind of granit, which would be called by some regenerated granit: it seemed intimately connected, and in some places interwoven with the schistus.—I staid at Schmölnitz two days, and am indebted to Mr. Drevenjak for his hospitality: hospitality in such a town as this, and with such an inn, is humanity and charity.

On leaving Schmölnitz I made the best of my way towards the Carpathian Alps. My road was still amongst *Argillaceous Schistus*, *Hornblende Schistus*, and Ferber's *Horn-schieffer*, till I came near Iglo. Here I met again with the unstratified compact lime-stone, and likewise a coarse-grained sand-stone: this has some impressions of vegetables. I was entertained with some fine wild scenery in this day's journey: the view of the plain in which Iglo and several other towns and villages are situated, is very fine.

Iglo is one of the principal of the sixteen towns of Zips: it consists chiefly of one fine broad and regular built street: it has mines belonging to it, but they are at some distance from the town. I only staid here half a day, and early next morning travelled on to Leutschau, through a flat corn country.

Leutschau the county town of Zips, is tolerably well built, and contains between four and five thousand inhabitants. I should immediately have continued my journey, but here I was to meet with Mr. Horvaths, the deputy lieutenant of the county, whose estate lies at the foot of the Alps, who was to give me the requisite information on the best means of seeing them to advantage: he unfortunately was not at home.—*En attendant* I took a walk about the environs of the town; I saw nothing but sand-stone strata, with some indications of coal. Baron Gordon, the post-master, has a considerable collection of instruments for natural philosophy: he has observed for many years the state of the barometer, which gives the height of Leutschau at 25 inches 11½ lines French measure.

When dinner time came my landlord begged I would permit two other strangers to dine with me: to this I readily consented, and the conversation immediately began upon thieves; and upon a band of thieves in the Carpathian Alps, who laid the whole country under contribution, and who had had the boldness to invite themselves to dinner at some of the seats of the neighbouring nobility. I knew,

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as the story was interesting by the numbers and boldness of the robbers, that some deductions must be made, as from most entertaining stories; but I did not think, though this was the case, that there was not a single word of truth in the relation, and that the whole had arisen from a few young men, from the other side of these alps, having fled into these recesses to avoid being sent for soldiers.

The next day the town magistrates sent for my passport, which I immediately gave them. The magistrates of Caschau had done the same; and when they returned it me, they very politely sent me an offer of their services, if I stood in need of them. But these fellows, soon after, sent me an order to come before them at the town-hall, which summons I obeyed. Here I found several *anthropomorphous* animals, whiskered and unwhiskered (*barbata* & *imberbia*), which could not certainly belong to that noble species of animal *Homo sapiens* Lin. as will shortly appear. They were, however, sitting round a large table, and endeavoured to imitate men transacting weighty public business; they muttered something amongst themselves, looked grave, knit their brows, wrinkled their foreheads, and shook their heads and stroked their whiskers; then one of them growled to the following purport: "We are our most gracious sovereign the king his imperial and apostolic majesty's magistrates of Leutchau, and to him we owe our lives and fortunes; as wise and judicious servants of the crown it becomes us to watch over the safety of the public intrusted to *our* care; *we* have therefore in *our* wisdom.

wisdom called you, Robert Townson, who give yourself out for an English traveller, before us, entertaining suspicions of your being a French Jacobin emissary: we have condescended to inspect your passport, which indeed asserts that you are an English gentleman on a tour through Hungary, but this passport we have declared to be a forged one, and you must be a Jacobin emissary; for it would indeed be a thing truly surprising, and as yet unheard of, that an English minister should give an Englishman a passport in French." I was going to explain, but was stopped. "Moreover we know, and you acknowledge, that you speak French; and it is clear to us all that you have a French physiognomy; and those long Hungarian breeches which you wear, do they not indicate that you wish to pass for something which you are not? and why so?—No no, we shall keep your passport, and you must remain here till we have orders from Bude." In vain I told them that the French was quite the diplomatic language, and that if they were suffered to approach the court of their own sovereign, they would there hear the French universally spoken, and that I had found almost every well-bred Hungarian nobleman speak it. I told them, they were of all people the most incompetent to judge by my person, whether I was a Frenchman or an Englishman, as it must be very difficult for them to see either the one or the other in this remote corner of the world; and that I wore the Hungarian breeches partly for the convenience of travelling, and partly as a compliment to the people amongst whom I travelled, whom I highly esteemed; that I detested the French

French principles, I was sure, not less than they did, and respected their sovereign as much. I soon found they were too ignorant to be reasoned with, and that they knew almost as little of civilized manners as Tartars; and I left them.

The deputy lieutenant fortunately for me was now returned; and, according to Hungarian hospitality, he would not suffer me to remain at the inn, which was very indifferent, not to say bad; and sent his servants to bring my baggage from thence to his own house. These officious magistrates, notwithstanding the superiority of my friend's rank and fortune, had the impudence to send their officers and tear them out of their hands, and carry them to the town-house. Now I began to think myself in a woful plight, not in regard to my person, but to my property, for I supposed they had voted me a Jacobin, that they might with impunity seize upon my baggage; and the idea struck me that they might have heard of the excellency of English workmanship, and as they were most of them taylor, shoemakers, &c. &c. they might possess the patriotic wish of perfecting their arts by following as models the articles they found amongst my baggage. But the zeal of the deputy lieutenant made them soon give them up again: yet they had the obstinacy not to do this till he had promised to be surety for me. The passport they still kept, and sent it to Bude, from whence I received it some time after, acknowledged as a proper passport. I learned the names of some of these fellows, and they shall be handed down to posterity with my new species of

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plants and insects—Kohlman, Gerstorfer, Haas, Weis, Eichner, Pridmanfky, Prahary, Ketskes, &c. I know Kohlman was a taylor: I therefore have placed him at the head, supposing him naturally to have been the man of the greatest weight in this august assembly, and to have been its president; and I ought to have styled him *ILLUSTRISSIMUS INCLYTUS ET INVICTUS KOHLMAN, SARTOR*.

The next day there was a meeting of the county; the nobility were ashamed that a stranger should have received such treatment in their country, and one who had so many letters of introduction to them. They begged me to attribute it only to the great ignorance of the individuals who were engaged in it, and I received many civilities and invitations from them.

A similar misfortune befell professor Haquet of Lemberg in Galicia, a very zealous naturalist, a short time before; but I believe this was on the other side of the alps, and it was attended with more disagreeable circumstances, probably from there not being any nobleman in the neighbourhood, to whom he could apply for protection. This gentleman was upon a tour similar to mine, when some ignorant officious inferior magistrate took it into his head that he was a spy, or something of this kind, and insisted on seeing his *pass*; this Mr. Haquet produced, and put in his hands: the judge, or whatever else he might be called, said he could not read French. Mr. Haquet told him it

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was in Latin. Now the judge was obliged to understand it, or pretend to understand it. When he came to "*ubique locorum*," he exclaimed he was now sure he was right in his conjectures, for he knew all Galicia, and was certain there was not a *town* in the whole province of this name. He ordered the professor therefore into custody, and a guard of four soldiers was set upon him; and in the morning he was sent twenty miles off to some superior officer or magistrate. But how was he guarded? By an old invalid with a rusty musket; whilst the professor and his servant had both rifle-barrel guns with them, and could at their ease have dispatched him; which they certainly would have done, had they been what the magistrate conjectured them to be. But as the professor knew the superior magistrate would immediately give him satisfaction, he suffered his convoy to live, and himself to be brought to his destination, where he was instantly honourably acquitted, and the officious magistrate punished; but whether this was done by a copious bastinading or horse-whipping, or by cutting off his ears, I did not learn. I forgot to mention, in relating my adventure, one fact which will make our misfortunes more similar. The Leutschau magistrates gave orders to the keepers of the town gates, not to suffer me to leave the town; when its walls were in such a state of dilapidation, that I could have gone off in state, without passing through them. They sent to the innkeeper at whose house I had been, to know whether I had had secret conferences with the town's-people, &c. &c. and threatened the poor man with punishment for not letting them

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know that he had harboured such a dangerous man in his house. In travelling through Germany on my return from Hungary, I was several times incommoded, if on foot, on entering the towns of some of the little German princes, by the guards and keepers at the gates ; and generally blustering and a little abuse gave me a more easy entrance than entreaty, or calmly reasoning with them. The suspicion of my being a Frenchman was the reason of this likewise. There is not perhaps a greater misfortune incidental to governments, than the necessity they are under of employing low ill-educated men in their service. This it is which renders the police of a country so difficult, and custom-houses, &c. &c. so disgusting.

I attended the county meeting. The business was transacted in the Latin language ; nothing very important was agitated, though often, besides the county business (for it has the care of the police of the county, and, when it forms itself into a court of justice, tries civil and criminal causes), affairs of great weight are here canvassed ; for the orders of the sovereign, though they may concern the whole kingdom, come before it, being sent to the county magistrates to be enforced ; and though it can by no means put a *veto* upon the royal mandates, yet it greatly impedes despotism by its spirited remonstrances and delays. Joseph the Second found this. From them it was he received the very bold remonstrances on his unconstitutional proceedings ; and now that the court of Vienna, alarmed at the prevalence of dangerous opinions, is endeavouring to diminish the liberty of the press, these

are not less active in maintaining this most valuable privilege. The annexed spirited remonstrances of the counties of Abaujvar and Bihar * will fully demonstrate this, and at the same time shew their political

* I.

KASCHAU, 12 Aug. 1793.

Serenissime regie hæreditarie Princeps, &c. &c. &c.

IN illa Resolutione, quæ per hoc Dicasterium, quoad tollendas *privatas* et privilegio non gaudentes Typographias, jurisdictionibus regni, sub 25 Jun. a. c. de jussu regis circulariter intimata est, complura continentur, quæ non solum cum legibus conciliari nequeunt, adeoque novam in *Nobis* excitant attentionem, sed ipsam etiam *Constitutionis* nostræ *basin* et *essentiam* ferire videntur. In hoc enim Intimato,

I. Id, quod semper ad legislativam potestatem pertinuisse, leges clarissime docent, *juris regalis* esse prætenditur. Jura regis, in constitutione regni definita, nobis quidem sacra sunt, et esse debent: verum ut ea ultra limites suos, lege descriptos, extendantur, jurave illa, quæ Status regni, potestate legislativa cum rege gaudentes, communia esse voluere, coarctentur, admittere, citra generalem in Comitibus regni manifestandam Nationis voluntatem, non possumus. Jam vero jus de editione *impressioneque librorum* statuendi, inde ab eo tempore, quo typorum in legibus primum mentio fit, penes *Status* et *Ordines Regni* fuisse indubium est; et per ipsos etiam ab hoc consilio citatos legum articulos, quippe xxivtum A. 1553 et xlvum A. 1599, clare demonstratur. Sed vero nec pervidere possumus, quonam pacto et sine leges hæ in præfato Intimato, exempli monstrandique juris regii gratia, adduci potuerint, cum ex disertis verbis contrarium doceant.

II. In eodem Intimato ordinatur, ut “ prædicto Mandato contravenientes actione fiscali conveniantur.” Hic poenam arbitrariam statui in aperto est. Neque enim casus ille interdicti *veteris calendarii*, pro quo per legislativam potestatem 1000 florenorum multa in specie dictata fuit, isthic applicari, et exemplo servire ullatenus potest; etiamsi interpretationem legum soli Regi non competere, in penultimis quoque Comitibus declaratum haud esset. Ast, quod plus,

III. Nec in toto juris nostri corpore uspiam vel vestigium reperire est, quod unquam Typographiam *sine privilegio* possidere, privatorum cuiquam interdictum fuisset. Quidquid autem lege non vetatur, id in qualibet bene constituta civitate licere ac liberum esse, nostrum cuique perspectum est. Imo, nonnullas ejusmodi Typographias, citra ullum privilegium erectas, hodieum in patria nostra existere et florere, relatum habemus.

Quod

political consequence. They are of more real importance than the Diets of many countries.

The

Quod porro elusionem censuræ attinet, de hac sequentia adferre constituimus.

Primum: omnes ii, qui rem typographicam commerciumque literarium tantisper porunt, ejusdem sunt sententiæ, abusu typorum similibus mediis nequaquam consuli. Libri enim vel perniciosissimi, in privilegiatis non minus quam privatis typographiis, occulte excudi possunt, et omnem cujuscunque vigilantiam effugiunt. Ut adeo non tam eo adnitendum esse censeatur publicæ auctoritati, ut ipsam librorum impressionem antevertere velit (quod alioquin, teste longissima temporum et populorum experientia, nunquam obtinebit), quam ut clam impressorum, si publicæ tranquillitati omnino periculosi forent, distractionem propagationemque modis congruis impedire, et malefatos eorundem autores cognoscere, ac dictatæ talibus per legem pœnæ subicere possit.

Dein: infinitis, iisque quotidianis exemplis, probatum est, eo plura, vehementiorque calamo conscripta, ubique locorum in lucem prodire opera anonyma, quo librorum *censura* rigida magis est et indiscreta. Hinc fit, ut non pauci scriptorum, celato nomine, tales tamque acerbos sæpe in lucem protrudant exasperati animi sui foetus, quales certe, si iisdem aperta, etiam si fortasse liberiori fronte, in publicum prodire licuisset, nunquam fuissent edituri. Non id quidem bene: sed quia homines sunt, humana faciunt debilitate; cujus utique legiflatorum nunquam oblivisci, sed eidem sapientibus mediis occurrere, oportet. In causas, in originem morbi, inquirere opus est, ne medela non bene allata, ipso evadat morbo funestior.

Denique, quod in hocce Intimato silentio præterire non possumus, est novum illud periculum, quod *libertati preli* imminere videmus. Hæc nobis (propterea jam sub 10 Jun. a. c. uberius remonstravimus) summopere cordi est. Hanc nos, cum *nobiliori longeque maxima* Nationis nostræ parte, uti et tota, qua late patet, cultiori Europa, velut civilis et politicæ libertatis *palladium* veneramur. Et quantopere eadem in regno hoc, penes innatam etiam Constitutioni nostræ publicitatem, necessaria sit, id ipsum novo ac manifesto esse debet argumento; quod, licet Status et Ordines jam ante integrum fere triennium, annuente Rege, *Deputationem* regnicolarem, systema generalium principiorum nationalis educationis et *libertatis preli* elaboraturam, denominaverint, tamen hodie dum, et quidem sub ipsum adhuc xviii^{vi} sæculi exitum! nostra etiam *defensione* egere videatur. Quæ quidem longe facillima foret; sed hoc Dicasterium ea opus non habet. Optime eidem nota sunt omnia illa, quæ hanc in rem adferri possent. Sane si quis reipsa ignoraret, si quis nosse cuperet, quid arti typographicæ, quid libertati preli debeat genus humanum; eum non nisi circumspicere oporteret, et quid nationes hodiernæ

The county magistracy consists of a count or lord lieutenant, a deputy lieutenant, who has sometimes an adjunct; a notary, a receiver

diernæ fuerint olim, quid nunc sint, videre ac judicare. Si *Anglia* adhuc libertate sua gloriari potest; si *Dania* cum *Suecia* reviviscit, et ad summam civilem beatitatem admirandis imitandisque gressibus properat; si *Germania* veneranda philosophiæ aliarumque scientiarum ac omnigenarum artium mater effecta est, et præprimis SAXONIA inter tantas utrinque procellas alma pace fruitur et floret; si *Septentrionalis America Status* jam nunc vivum quoddam felicitatis civilis exemplar et speculum præbent; si denique *Orientalis* vicini nostri adhucdum in tristi, hominibusque adeo indigna, barbarie gemunt, et maximorum perfectæ civitatis commodorum expertes sub vilissimo despotismo prostrati jacent: illi suam fortunam salutare huic humanæ mentis et industriæ invento ejusque usui prudenti ac libero, hi contra infelicitatem suam ejusdem defectui, adscribendam habent.

Non immerito igitur Nos sollicitudinem nostram nuper huic Consilio remonstravimus: non immerito nunc quoque ob intentatum tanto bono periculum anxii sumus. Dignabatur quidem idem Dicafterium sub 2 præt. mensis Jul. nos de eo securos reddere velle, quod *activitas Censuræ congruis limitibus circumscripta sit*, nullumque libertati preli per eos inferri possit periculum. At nos inde ab eo etiam tempore de novis eorundem arbitrariæ manipulationis exemplis edocti sumus. Non sine resensu vidimus nuperrime, ipsam etiam Universitatis hujus circularem de erigendo *nationali theatro* determinationem, in *Novis Ungricis* mancam et per Censorem obtruncatam, in publicum prodiiisse. Non sine resensu vidimus et hodie in conspectum nostrum produci originales ipsius Budensis Librorum Revisoris literas, quibus idem disertis verbis fatetur, se orationem unius ex præstantissimis patriæ nostræ civibus et literatis, "ob unum alterumve epifodion, quo in *patriam laudesque* JOSEFI Imperatoris digreditur orator," Suxæ Majestati submisisse. Quasi in laudes patriæ et principis excurrere piaculum foret!

Ex his igitur pervidere dignabitur hoc Dicafterium, quantopere necessarium sit, ut hominibus his, quibus cura revidendorum librorum, adeoque (prout jam nuper diximus) ipsa *clavis culture Nationis*, concredita est, magis etiam invigiletur; et quantopere denique intersit reipublicæ, ut efficacissimum isthoc communis felicitatis adminiculum intactum servetur, ac omni quo fieri potest meliori modo custodiatur.

In reliquo Benignitati, &c. &c. &c.

Ex generali Congregatione nostra, Cassoviæ

d. 12 Aug. 1793 celebrata.

UNIVERSITAS COMITATUS ABAUJVARIENSIS.

II. E ge-

ceiver or treasurer, a fiscal, the judges and deputy judges of the nobles, the sworn assessors and the commissaries. Except the lord lieutenant,

II.

E generali Congregatione nostra in oppido Diószegh
d. 30 Septembr. 1793 celebrata.

Serenissime Regie, &c. &c. &c.

DIVERSA inde ab aliquo tempore ad Nos pertigerunt *Consuetudinis Vestre Regie et Consilii Locumtenentialis Regii intimata*, quæ libertatem preli ferunt: signantur dd. 19 Febr. a. c. 9 Mart. 12 Apr. æque a. c. quibus *Historia Universalis* authore Abbate Millot edita, et in linguam Ungricam transversa, *Dissertatio item de Regie Potestatis in Ungria Limitibus*, et alia de *Comitiis Regni Ungrie*, deque *Organisatione* eorundem, ad classem *prohibitorum* relatæ esse significantur.

Pertigit porro nunc recenter aliud etiam, sub d. 25 Jun. a. c. circa tollendas *privatas* et privilegio haud provisas typographias, circulariter expeditum Intimatum.

Quæ omnia cum ad restringendam *preli libertatem* tendant, in proponendis eatenus nostris reflexionibus conjungenda esse censuimus.

Quantum itaque Resolutiones illas attinet, quibus *Dissertationes* superius provocatæ, de *Regie* scilicet *Potestatis Limitibus*, atque de *Comitiis Regni* Ungriæ tractantes, interdicuntur; non ea est intentio nostra, ut opiniones et principia in his libris pertractata defendamus, vel auctores eorum excusatum ire velimus, quum tenor librorum horum nobis incognitus sit, et nec principia in his assumpta examinare velimus. Verum id nos præcipue attentos reddit, quod in his libris, prout ex titulo operis collimare possumus, materię ad regnicolares Deputationes relegate pertractentur, de quibus *Artic. lxviii*us A. 1791 disponit, ut eatenus sensa sua etiam *privati* Regnicolæ exprimere valeant; et quod de potestate legislativa, de objectis statum regni publicum concernentibus, differentes libelli prohibeantur; quasi de his objectis scribere periculosum et piaculum esset, quum tamen *admitendum potius eo fore censeamus*, ut, *per libros pro et contra scribendos*, *Regnicola jus publicum et constitutionem regni* adæquate elucubratam habeant.

Solicitos præterea reddidit nos hæc prohibitio etiam ideo, ne sequela similium prohibitionum *Votorum* Diætalium restrictio sit. Quodsi enim de his in *Comitiis* libere loqui licet: non pervidemus, qua ratione possit quis prohiberi, ne sensa sua *scripto* etiam publica reddere possit? aut si *scribere* quis inhiberi possit, quare etiam loqui inhiberi nequeat?

lieutenant, who is appointed by the sovereign, when his post is not hereditary; they are all elected every three years by the county.

The

nequeat? Atque adeo, quum, per Resolutiones superius provocatas, scripta de *Potestate Regis* et de *Comitiis Regni* prohibita fuerint: veremur, ne libertas etiam votorum, dum in Comitibus objecta hæc agitata fuerint, eadem ratione impediatur.

Præcipuam vero Regnicolarum attentionem meretur, quod, quum per has Resolutiones quædam circa libertatem preli statuantur, Conclusa Diætalia præoccupari certum sit, et per manifestationem mentis regis libertas votorum in affuturis Comitibus, si non penitus impeditur, ad minus in plena libertate non relinquatur.

Postquam objectum libertatis preli, per articulum lxvii. 1791, ad futura regni Comititia relegatum est; de hujus restrictione eo minus potuisset quidquam intermedio tempore statui, quod per similes Resolutiones in obversum Articuli xii. 1791 Resolutionibus regeremur: et etiam si quidpiam ordinari posset, non in restrictionem sed in libertatem preli deberet ordinari; quia lex de libertate, non autem restrictione, loquitur. Nam etiam si certum sit, malitiosos quosdam libertate preli abuti: sed prout medicina, sanitati hominum proficua, ideo quod quis ea abuti potest, rejici, ususque ejus prohiberi non debet; ita neque libertatem preli, propterea quod quis ea abutatur, in obversum legis restringere oportet; verum malitiosi hi auctores, perniciosorumque librorum impressores, in personis debent puniri, et quidem in *via juris*, et per *ordinarios regni judices*. Nam Censores librorum legibus regni prorsus incogniti sunt, activitasque eorum in legibus radicari nullatenus potest. Atque adeo ipsa *Celsitudo Vestræ Regiæ*, et Consilium Locumtenentiale, perspicere dignabuntur, quod Censores legalem activitatem non habeant, aliquem civium ex scriptis ejusdem judicandi, et pro pernicioso cive declarandi. Et certe, etiam si Censura locum habere deberet, illius tamen activitas non ad *opinionum* censuram extendi, sed unice ad morum et publicæ tranquillitatis conservationem restringi debeat; quia opinionum libertas, cum libertate conscientiæ, et votorum libertate, indissolubili nexu junctæ sunt, salvaque fundamentali nostra in libero hoc regno prærogativa, nullis limitibus circumscribi potest.

CALUMNIATORES nationis nostræ nos *barbaros* esse publicarunt, et hodieum clamant. Si arbitraria modernorum Censorum activitas ultro quoque admittetur; veremur ne horum culpa merito pro talibus reputemur. Nam annon defectum culturæ redolet librorum etiam philosophicorum censura, librorum qui in ditionibus Suxæ Majestatis aliis publice et libere venduntur? *Certe dolere debet sortem sana philosophia eruditus*

X x

orbis,

The meeting, I think, only lasted one forenoon, and was succeeded, as such things generally are, by a very good dinner.

The next day I continued my journey northward. Just before I set out, I had received a letter from Dr. F—, to inform me that he had resolved to accompany me in my excursions in the alps, *couste qui*

orbis, quando, versionem operis philosophici MENDELSONII, sub titulo PHÆDON, per Censuram UNGRICAM revideri; et censuræ subjici, imo castigari etiam et truncari, audit! Nostra quidem opinione, relata ad opera philosophica, historica, et religionaria, Censores non sane correctionis et prohibitionis, sed refutationis, constituendi forent; et his injungendum esse judicamus, ut falsas scriptorum opiniones (si tamen pro censura submitti debent) indicare, simul tamen in adjiciendis notis refutare teneantur.

Quod aliam *Regis* de Typographiis *absque privilegio* haud admittendis editam Resolutionem concernit, hæc, ut candide fateamur, non minus præjudiciosa fore videtur. Nam tenore ejus, dispositio circa Typographias *juris regalis* esse prætenditur, et contra eos, qui privatam Typographiam servare, vel in his libros edere præsumserint, arbitraria per solum *Regem*, inconsultis Statibus Regni, poena statuitur.

Jam vero nobis quidem ignota est lex illa, quæ jus circa admittendas vel non admittendas Typographias potestati regię tribueret; et nullatenus pervidere possumus, quo pacto leges, in Intimato hujus Dicafterii citatæ, ad demonstrandum jus regium applicari queant; quum hic non nisi de prohibitione *veteris Calendarii*, communi Legislativæ, id est Statuum et Ordinum Regni, ac Regiæ Potestatis consensu determinata agatur. Et non modo nullum in legibus regni vestigium apparet quod jus de Typographiis aliquid statuendi ad jus regium pertinuerit; quin potius Art. xxivtus 1553 clare ostendit, quod *Rex ad Status Regni recurrerit, et ab iis petierit, promiscuæ librorum impressioni limites poni, et quod Status Regni in exercita preli libertate permanferint.*

Secundum quod attinet ordinationem, nempe illam, ut mandato huic regio contravenientes *actione fiscali* convenientur, dum per resolutionem hanc poena arbitraria, inconsultis Statibus Regni, statuatur: per hoc præjudicium legibus inferri evidens est. Certe per hujusmodi resolutiones, earum et hujus Dicafterii auctoritas compromittantur. Nam si res ad casum veniret, nulla lege existente: non possumus perspicere, qua ratione posset.

qui conte, and to desire me to hasten my setting out. Half way, that is a few hours after, I met the determined doctor coming back, as he had now resolved to give up the tour. I have often in France met with such geniuses, and have often had a good *partie* or excursion spoiled by them. I continued my journey to Kesmark. I saw nothing but sand-stone strata all the way.

possēt aliquis Nobilium legitime convinci, seu ideo quod privatam Typographiam habuerit, et illa usus sit; seu ideo quod libros per Censores prohibitos emerit, legerit, vel vendiderit. Ipsa enim natura *regni liberi* exigit, ut ea, quæ diserta lege non prohibentur, libera sint.

Hæ sunt nostræ reflexiones, quas ex studio, quo erga conservationem legum ducimur, depromimus, et quas eo cum petito *Celsitudini* V. R. et Consilio Locumtenentiali remonstramus, ut eas Regi subternere exoperarique dignetur, ne *usus preli*, lege pro libero declaratus, per Resolutiones Regias quacunque ratione restringatur.

Cæterum Benignitati altisque Gratiis devoti persistimus,

Celsitudinis Vestræ Regiæ,

Et Exc. Consilii Locumtenentialis, &c. &c.

Humillimi servi,

E generali, &c.

UNIVERSITAS COMITATUS BIHARIENSIS.

C H. A P. XV.

EXCURSIONS IN THE ALPS.

THE weather for two or three days previous to my arrival at Kefmark had been very rainy and stormy, and some people in the neighbourhood had been killed by the lightning; and when I arrived at Kefmark I had but small hopes of having weather proper for an Alpine excursion; but the next morning was the loveliest imaginable. The Alps, which I had never yet seen, from the clouds in which they had always been enveloped, when I was in other respects in a situation of seeing them, appeared in all their towering majesty, and just above me. Now my hopes of a rich harvest of Alpine plants began again to revive: I immediately went to Nehre, the seat of Mr. Horvath, the deputy lieutenant, only a couple of miles from Kefmark, to plan the expedition; and that very evening I went to Rokus, a village just at the foot of the Alps, accompanied by a good provision of ham, beef, bread, wine, brandy, &c. &c. the best escort I could take with me, a present from Madame Horvath, with full expectation of ascending in the morning.

Happiness, say the moralists, which depends on our outward circumstances, is always uncertain; and that, I say, the most fleeting
of



A View of the Carpathian Alps near Hermann.

London, Published by G. & J. Robinson, Paternoster Row, July 1st 1796.

of all, which depends on constant weather in a mountainous country. I was hardly at Rokus before it began to rain : the next morning it did the same : I waited however patiently, though I was only in a poor peasant's cottage, till the evening, when finding the weather not to clear up, I returned to Nehre.

To my great vexation this weather continued near a week : the mornings were often fair, but towards noon the clouds began to gather round the mountains, and in the afternoon a violent storm ensued : but this weather was not peculiar to this alpine situation ; in distant parts of the country the same prevailed. The most general wind was what is here called an Hungarian wind, that is the south wind, and this is the harbinger of rain : the north wind is called the Polish wind, and is considered as a harbinger of dry weather. I passed my time, whilst waiting for fair weather, at Mr. Horvath's at Nehre, and at Mrs. Berzevitz's at Lomnitz ; and sometimes at Kefmark, where I had always a hearty welcome at the Rector Potnakinsky's, and at Mr. Paul Methlin's.

The probability of a fine morning induced Mr. Horvath one day to make a large shooting party. We set off by moon-light, in three or four carriages, and reached the ground at day-break : we were after roe, but the first marks our sportsmen observed were the marks of a bear ; and as it had rained last night, from the freshness of the impressions they knew it must have been here only a few hours ago.

As

As we were near twenty strong, and had ball and flugs with us, we were not alarmed.

The morning being fine, I soon left my companions, and with a guide I set off for the Green Lake (Grüne See) which lies amongst these Alps. This is frequently visited by the curious, as it is of pretty easy access; horses come and pasture here. We ascended through ravines and vallies, and pine forests, for about two or three hours. The first hills we came to were formed of great loose blocks and fragments of granit; but at the lake, the boldest craggy rocks of granit rise and form an amphitheatre, and shut up the valley. The lake has obtained its name from the colour of its water, which has a greenish cast. I had hardly begun to botanize when a thick mist with rain came on; and though the road is by no means dangerous, or difficult to find, yet on account of these pests of Alpine travellers, it was as much as we could do to find our way back again. My companions had had but poor sport: they had only killed a fox, and seen two or three hares. In coming down the hills I found a party of peasants, some with guns, others with hatchets. They informed me they were in search of the robbers from the other side of the Alps. In joke I told them, I thought they would have but a poor chance with such a desperate gang: John Bull like, they replied, "The weakest of our party thinks himself able to encounter half a dozen of them." So then it is the same in Hungary as it is with us?—Yes, just the same, whether thou art a Chinese or a Briton——Hence patriotism. In the evening we returned to Nehre.

In two or three days the weather cleared up, and I returned again to Rokus, with the intention of immediately entering the mountains: but no guides were to be had. But the next morning, having arranged every thing for a stay of two or three days, I set out, accompanied by my servant, two guides, and a man and horse to carry provisions, &c. taking with me a common barometer, which I had bought at Kefmark, to measure some of the principal peaks of these Alps.

Soon after leaving the village, we entered a large wood chiefly of firs: after traversing this, we came amongst rugged rocks, and the first was a sand-stone, which I shall call for the present Alpine Sand-stone: it had no regular stratification, as in common sand-stone; but it had a tendency to divide into beds, something like schistus: it was in some parts as coarse as a pudding-stone, and in others as fine almost as a granulated quartz: the beds were almost horizontal: its height I estimated at one hundred yards: larch trees were common here.—We then came to lime-stone rocks, which extend a great way, forming the external ridge, or outward covering, as it were, of the Granitic Alps: they form the *Iron Door*, and the *Fleisch Bank*; the latter of which is represented in the 7th plate. We then turned off to the left, and got amongst granites: the path now began to grow very dangerous for our horse; yet we arrived safe at the Green Lake, but not till the afternoon, though the peasants call the distance only three hours. I had not time to botanize *chemin faisant*, and in the animal world:

world we saw nothing, except the *Papilio Apollo*, and the *Leptura 4-maculata*.

I chose our abode about a hundred yards from the lake; under an immense block of granite which had fallen down from the rocks above, and was surrounded with other blocks; these served to keep off some of the roughness of the weather. It was fortunate enough for us, that plenty of the *Pinus Pumilio*, here called *Krumholz*, grows in abundance. Whilst my attendants were occupied in cutting this for fuel, having first determined the height of our situation, which I found to be about 874 yards above Rokus, and 1684 above the level of the sea*, I made a botanical excursion.

The

* In making these calculations, I have followed Mr. De Luc's method, as far as it was applicable; but as these observations were made without a thermometer, neither the expansion and contraction of the mercury, nor the temperature of the atmosphere, could be attended to; yet, for reasons which will soon be assigned, a temperature of 10 degrees of Reaumur has been supposed.

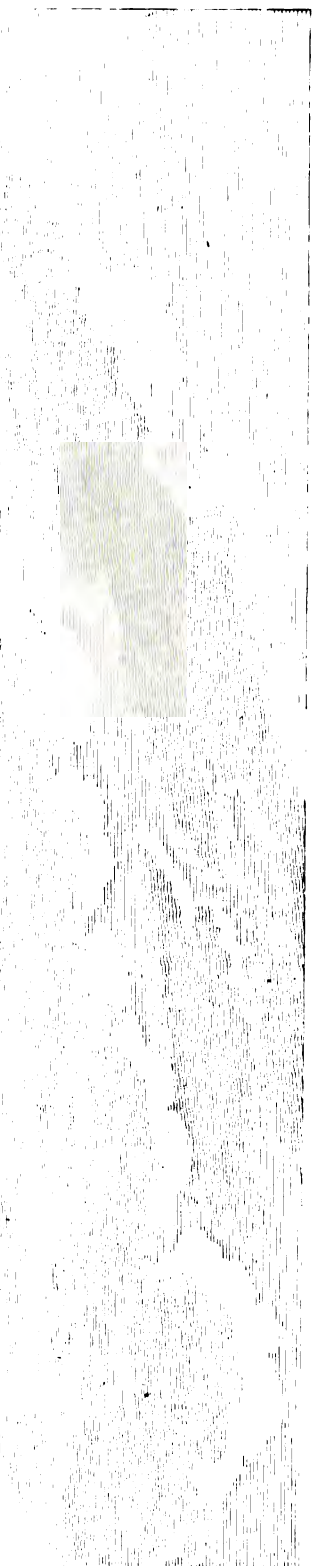
From the observations of Baron Gordon, as mentioned in page 326, it appears that the medium height of the barometer at Leutschau is $25'' 11\frac{1}{2}'''$ Paris measure, that is $311\frac{1}{2}'' = 311,5'''$: now estimating the height of the barometer at the Mediterranean at $28'' = 336'''$, the calculation stands thus, $\text{Logarithm } 336 = 2,5263393$

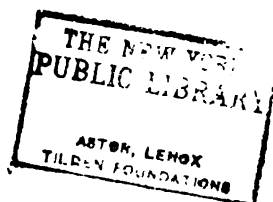
$$311,5 = 2,4934581$$

Difference - $0,0328812$. This then multiplied by 10000 gives 328,812 as the uncorrected height of Leutschau above the Mediterranean; that is 328 toises and $\frac{8}{10}$ omitting the $\frac{12}{1000}$, this is 328,8 toises.

This

Off to the left near the Green Lake?





The Alpine plants I found (but not all in this excursion) were the *Primula minima*; *Swertia perennis*; *Soldinella alpina*; *Campanula alpina*; *Gentiana punctata*; *Saxifraga aizoon*, *bryoides*, *autumnalis*, *rivularis*,

This height, which I call the uncorrected, would be the true height, that is, it would require no correction, if the medium temperature between Leutschau and the Mediterranean were $16\frac{1}{2}$ of Reaumur: but this would be a very improbable supposition; it is therefore better to consider it at *temperate heat*, which is 10 degrees of Reaumur. Now Mr. De Luc deducts, for each degree of Reaumur under $16\frac{1}{2}$, $\frac{1}{115}$ of the whole height of the uncorrected, and adds $\frac{1}{115}$ for each degree above $16\frac{1}{2}$; we must therefore here deduct the 215th part of 328,8 toises taken 6 and $\frac{1}{2}$ times: $\frac{1}{115}$ of this height is = 1,54 toises, and $6\frac{1}{2}$ times this is = 10,39 or $10\frac{19}{100}$ toises.

Uncorrected height = 328,81

$$\frac{6\frac{1}{2}}{215} = \underline{10,39}$$

True height - - - 318,42 therefore $318\frac{4}{10}$ or $318\frac{2}{5}$ toises.

In the same manner the other heights are calculated; for example, at the greatest height the mercury stood at $5'' 7\frac{1}{4}'''$ lower than at Leutschau, or $67\frac{3}{4}''' = 67''',75$

At Leutschau	-	-	-	-	-	311''',50
At the greatest height	-	-	-	-	-	67,75 lower.
Therefore at the greatest height	-	-	-	-	-	<u>243,75</u>

Logarithm 311,50 = 2,4934581

243,75 = 2,3869446

Difference 1065,135

The uncorrected height therefore in round numbers, as the $\frac{1}{100}$ is here of no moment, is 1065 toises, from which $\frac{6\frac{1}{2}}{215}$ of it must be deducted,

$\frac{1}{115}$ is = 4,95 toises = $4\frac{95}{100}$ toises, $6\frac{1}{2}$ times this is = 33,4 toises $33\frac{4}{10}$ or $33\frac{2}{5}$

Y y

Uncorrected

rivularis, *oppositifolia*, *cæspitosa*; *Silene acaulis*; *Geum reptans*; *Aconitum Napellus*; *Anemone alpina* & *narcissiflora*; *Ranunculus rutæfolius*, *glacialis* & *alpestris*; *Bartsia alpina*; *Pedicularis verticillata*; *Cardamine petræa*; *Sonchus alpinus*; *Cacalia albifrons*; *Gnaphalium alpinum*; *Tussilago alpina*; *Cineraria cordifolia*; *Doronicum austriacum*; *Viola biflora*; *Veratrum album*. At night I returned to my rock, where I found my attendants sitting by a most comfortable fire.

A good fire was very necessary; for though this was the fourth of August, yet within a hundred yards of my rock, a great deal of snow was still remaining, and we had no straw, nothing but the bare ground to lie on. I fell asleep amidst the relation of strange tales, with which my guides entertained my servant. "Here, Mr. Frank," said they, "at the top of yon rock which is called the Carbuncle Rock, was a precious stone of this name, of an immense value, and which shone like a star in the firmament; many ascended the rock in vain; just where it was placed the rock was quite inaccessible; at last it was shot down.—Indeed!!—There in that direction lies a treasure; but a spell is laid upon it, so that nobody can find it.—Surprising!!—And in that there is a remarkable hole, from which, if a stone is

Uncorrected height	-	-	-	-	1065,13
Deduction	-	-	-	-	33,40
					<hr/>
The true height above Leutschau	-	-	-	-	1031,73
True height of Leutschau above the Mediterranean	-	-	-	-	318,42
					<hr/>
True height of the greatest height above the Mediterranean	-	-	-	-	1350,15

thrown

thrown in, a vapour arises which is soon followed by a dreadful storm, which makes the very mountains tremble.—Good God!!—Upon that mountain grows a plant, which now nobody can find, which turns copper into gold.—Impossible!!—And there on yon craggy rock I was once caught in a fog, and was obliged to remain shivering with cold for many hours, till the wind dispelled it.”

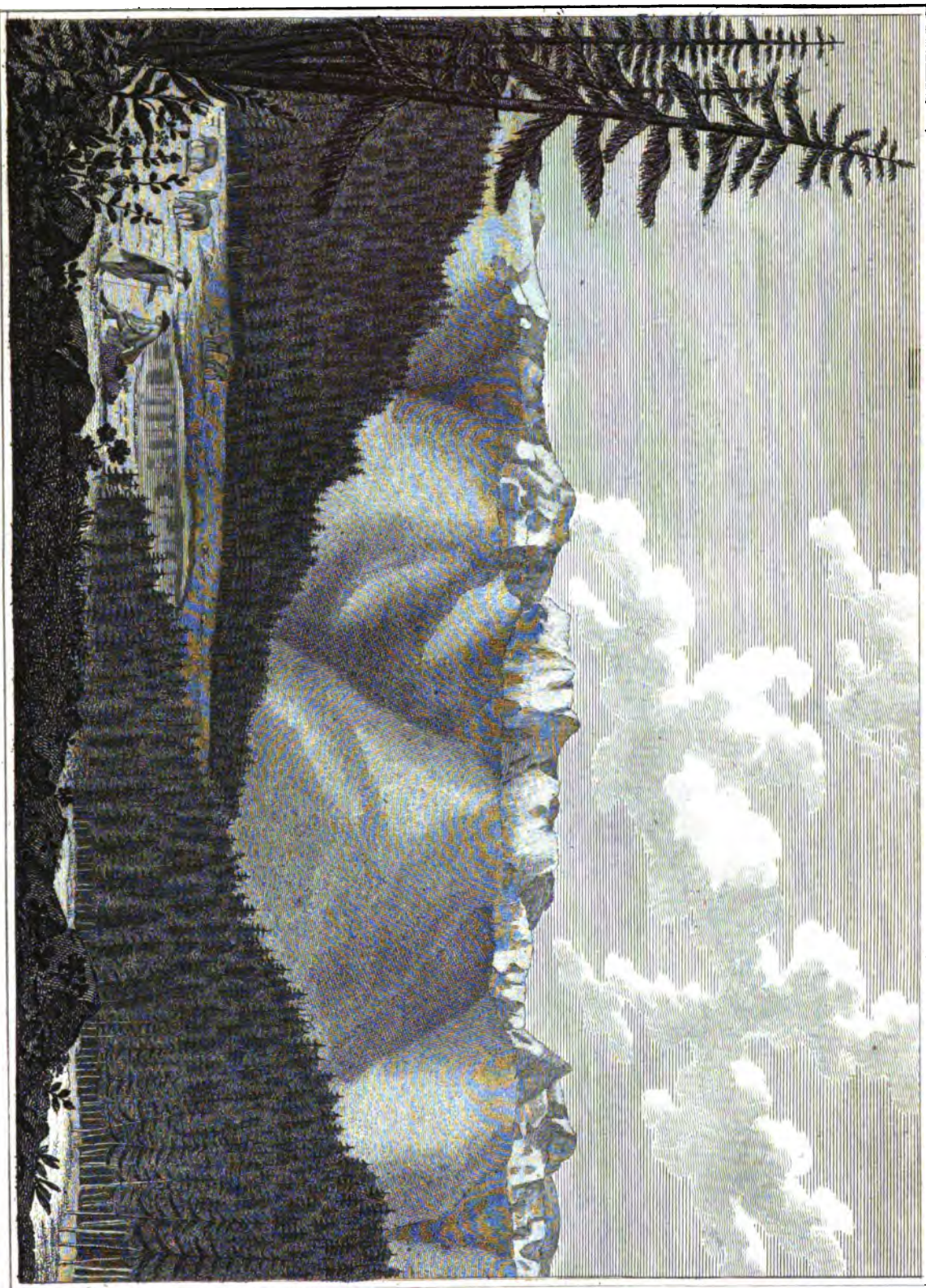
My bed did not induce me to lie longer than nature required ; and as the morning promised a fair day, I was desirous to be off, to make the most of it. The whistling of the Marmot, if it did not wake me, was the first sound I heard. Taking my servant, and one guide, and some provisions, I set out, leaving the other guide to cut fuel, and watch my provisions, &c. I ascended by a small cascade into a higher valley, where still more snow was lying ; I then turned off to the left, to see if it were practicable to ascend the great Kefmark Peak. I came to the foot of some rocks, which by the aid of a good guide I think might have been climbed : but my guide happened to be an uncommonly bad one ; in a storm of hail and rain, accompanied by thunder and lightning, which came on whilst I was there, he ran off, and I never spoke to him, and hardly saw him, till I returned to my rock, where I found the scoundrel warming his nose. —The further and higher I went, the more snow I found ; one steep sloping valley, which led up to some very high rocks, was quite filled up with snow. Whilst I was looking at this, and considering whether, by the aid of irons to my feet, I could not get up, I saw

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something move briskly upon the frozen snow, and I called to my servant to look at it, thinking it was a Marmot: soon it stopped, and I then knew it was only a stone, which had slid down from the rocks above. A few minutes after another came down, but with greater velocity: I saw it begin to bound, and come towards us; I called to my servant to stay where he was, as he was safe, sitting under the opposite side of a great block of Granit. Not understanding me, he got up and came towards me: he now saw his danger, but not time enough to avoid it: the stone, or rather the fragment of rock, made a dreadful bound, and lit upon the very block under which he had been sitting, and from thence, broken in pieces, it flew in all directions: some of the fragments just went over his head. Left by my guide, and my botanical boxes full, and my dram bottle empty, I thought it time to come down. The greatest height I had reached this day was 559 yards above the Green Lake. In this ramble I chiefly met with the same plants I did the day before; but the *Ranunculus glacialis* and *rutæfolius* and the *Cardamine petræa* grew here more luxuriously.

The next morning I sent away my timid unfaithful guide, and gave orders for another to come up; and then leaving my servant to cut wood, and take care of the *hause*, I set off with the other guide for the calcareous rocks which are above the *Fleisch-Bank*, and are a continuation of those I found in my road to the Green Lake, and are represented in the 7th plate. The fine
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A View of the Welsh Bank from the Green Lake.

London, Published by G. & J. Robinson, Paternoster Row, July 1st 1796.

sloping bank, covered with verdure, which lies under these rocks, is called the Fleisch-Bank, from the quantity of oxen that are pastured upon it during three or four of the summer months. Here I found several rare plants, as the *Cnicus pygmaeus*, *Hypochaeris helvetica*, *Leontodon aureum*, *Hieracium alpinum*, *Andryala lanata*; and at the top the *Hedysarum obscurum*, *Phaca frigida*, *Astragalus alpinus* & *vesicarius*; and in a shady place, close under the rocks, the *Cortusa Matthioli*, and *Centauria montana*; and on the rock itself, some beautiful specimens of Wulfen's *Lichen tartareus*.

I had now a full view of the lime-stone rocks: but I could neither see any mark of stratification, nor any petrifications; they were formed of one thick bed of compact light-grey lime-stone; and according to my barometrical measurements, about twenty-six yards thick. In one place it was pretty regularly divided into four or five beds; but these divisions, or signs of stratification, only extended a few yards: between these beds were four or five thin beds of black flint, running parallel to each other; but these likewise were only of a few yards extent, and were sometimes intercepted in their course by the lime-stone.—Though there was very little danger or difficulty in climbing to the top of these rocks, yet my guide would not venture; but as he told me at first that he was no Chamois-hunter, I could not find fault with him. It will appear something uncommon, and perhaps improbable, that a *cockney* should be a better climber of Alps than those born just at their foot: but so it happened; I was obliged
to.

to leave my guide here at the bottom of the rocks ; and telling him that by signs with my hat I would indicate to him which way he should go to meet me, I climbed up by myself. I got well paid for my trouble. On the top, besides enjoying a beautiful view of Galicia, I found some more Alpine plants, the *Saxifraga cæsia* in great abundance ; *Dianthus alpinus*, *Cerberia sedoides*, *Dryas octopetala*, *Senecio abrotanifolius*, and a most luxuriant specimen of the *Lichen elegans* of Mr. Link *, the *miniatus* of Hoffman. Though towards the Green Lake, that is towards the west, the cliffs form a perpendicular wall ; yet on the other side there is from the very top a most pleasing sloping bank covered with verdure.

Having staid as long as my time would permit, I made my signs to my guide, and then descended on the same side I came up. In a ravine I found some soft argillaceous schistus ; this seemed to me to form the Fleisch-Bank ; but it was not slate, the *Ardesia tegularis*, but rather something of the nature of *Shale*, being soft and friable. Now was this deposited against the lime-stone rocks,—or were these superimposed to the schistus ?—This is of importance in *Geognosy*, and presently we shall be able to decide the question.—I could never see any thing of my guide till I was quite at the foot of the bank, and then I espied him just where I had left him. I conjectured at first, when I did not see him, that he had done like my other guide, run

* Annal. der Natur-Gesch.

away ; but now I had reason to believe he had mistaken my signals. I waited in hopes he might espy me, but to no purpose, and at last I went home. It soon grew dark, and I got amongst the Krumholz ; and here I thought I must have passed the night. No one who has not made a trial, can form an idea of the difficulty of making one's way through this, and the consequent tardy progress. The branches of this tree extend many yards in all directions just along the ground : they are sometimes supported by the unevenness of the soil, sometimes by blocks of stone, and sometimes by branches of the same ; so that one must often get down between them, at other times walk upon them. At last, however, overwhelmed with fatigue, I reached my rock ; which in this situation I valued no less than an inn, and which I now began to consider as my home ; but my guide never made his appearance till next morning. He had fortunately his hatchet with him, and without this you never see a man here ; so much so, that in another part of these mountains, Mr. Haquet says, they dance with them in their hands, and in the midst of the dance throw them up in the air, and catch them again with great dexterity. With this he had cut himself some of the Krumholz ; and with the tinder made from a fungus, which they likewise always carry with them to light their pipes, he had kindled a fire, and passed the night comfortably ; and the only thing he missed was——my brandy.

The next day I spent in reposing myself, in drying the plants I had collected, and in walking about my *own domains*. At the bottom
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of the great rock, *b*, which is the Kefmark Peak, it is said there is a vein of Lapis Lazuli: I went there, but found the place quite covered with snow.——In the evening, Grofs Hans (Great John) the best guide and Chamois-hunter in the country came to me, and the next morning we set out upon scaling one of the most difficult peaks, the White Lake (*Weisse See*) Peak. I climbed up with my barometer, though in many places it was hardly accessible but to *chamois*. The hunters of these animals know the paths they take in these Alps, and set traps for them: one of these we found; it was like a large fox-sneel-trap: but they only set them in the close of the year, when the snow prevents any one from visiting these mountains except themselves, otherwise they might find a man in them instead of a *chamois*, as sometimes Treasure-hunters and Simplers come here. Lakes, though common enough in every alpine country, are what appear most remarkable to guides. I was first conducted to the Red Lake; higher up to the New Lake: this was quite frozen up and covered with snow: we crossed this, and then climbed the high and very narrow ridge of rocks which separates the valley of the Red Sea from that of the Flock Sea: we then reached the peak. The day was delightful: I had a fine view from hence of the surrounding alps: these are so much higher than the mountains to the east and west, which form part of the Carpathian chain, that they seem to be only one huge cluster of alps. I had a fine view likewise of Galicia: it is commonly reported, and given as an indication of their great height, that from these alps, Cracow may be seen in the north, and Erlau in

the fourth. I imagine they ought to have said, that from these two distant cities these mountains may be seen; and this would be very probable. From Lyons I have seen Mont-Blanc; but no one ever saw Lyons from Mont-Blanc. Though my barometer told me I was now 628 yards above the Green Lake, yet the Kefmark Peak still rose much above me: I could plainly see the highest part I had reached the first day, and this appeared on a level with the middle of the Kefmark Peak; if so, the height of this Peak, which is on this side a perpendicular rock, will be 1152 yards above the Green Lake, and 2836 above the level of the sea. At the very top of this White Lake Peak, I found the *Papilio Urtica*, and several of the *Stratiomys nigricans* whisking about with great velocity. We descended by the *Schattners Grotte*. This is a shoulder of the peak, and thus far all is granit; but to the east of this the granit is covered by sand-stone of different degrees of fineness, from granulated quartz to almost pudding-stone. Above this, further to the east, the sand-stone is covered by the primitive limestone; the *Durlfberg* is a continuation of the same, and this is likewise lime-stone. Neither in the sand-stone nor lime-stone, was there any appearance of stratification or petrifications. This ridge, which runs parallel with the *Fleisch-Bank*, has its perpendicular cliffs, like this, facing the Green Lake. Upon the granit rocks I found little, except some luxuriant specimens of the *Lichen tauricus* & *nivalis*, and some of the Alpine *Usneæ*. I think it was here where I found that rare plant, the *Gentiana frigida*, figured in the 13th plate. On the calcareous rocks I collected the *Androsace villosa* & *pauciflora*, with the *Draba aizoides* & *birta*.

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From the White Lake Peak I had seen some very bold cliffs belonging to the chain of calcareous rocks which overhang the Fleisch-Bank, but much higher than those I visited the second day. My next day's excursion was to these. I went nearly the same road as I did the second day, but more to the left. The Fleisch-Bank here afforded me some rare alpine plants: in one spot grew together the *Pea disticha*, the *Ranunculus Thora*, but out of blossom, the *Doronicum bellidiastrum*, and the *Erigeron uniflorum*; and higher up the *Aster alpinus*, and *Chrysanthemum alpinum*, and other plants which I had already found in these Alps.

At some distance I espied a deep ravine. These small scratches in the skin of our globe, often shew us a little of its texture; they are therefore eagerly sought for by Geognosts: I made up to it, and it solved the doubts which had arisen in my mind the second day on my finding the schistus. I entered it about one-third from the bottom, and, ascending, the first thing I observed was an immense thick bed or stratum of soft shattery argillaceous schistus; then a thick stratum or two of the primitive sand-stone, and then more schistus; and when I reached the great cliffs, which I expected to find of lime-stone, I found again my primitive sand-stone, and forming a bed that I cannot estimate at less than a hundred yards in thickness; and then above this came the great lime-stone rocks: these beds of sand-stone and lime-stone were no ways stratified; they were beds or strata themselves. From hence it is most probable that the schistus,

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which I found the second day, and which I conjectured to form the flesh bank, really lay under the primitive limestone and supported it.

I ascended to the highest part of the calcareous rocks with my barometer; but by some misfortune the observations I made here were lost: yet I recollect they made these rocks about the height of the White Lake Peak, that is, about two thousand three hundred yards above the level of the sea; and as the *Weiden-Graben* or brook, which runs at the foot of the *Fleisch-Bank*, is rather lower than the Green Lake, so there is an immense bed near 700 yards thick of stratified rock.

Before I set out in the morning, I had given orders to my servant to take my baggage to the Kefmark *Keschar*, where I intended to pass the night; and I had bid adieu to my rock, adieu for ever:—an adieu for ever, to a prison, would sadden the pleasures of regained liberty, and cast a gloom over the soul reprieved from death. Objects of affection would now crowd upon the mind; and the chains would be thanked that they had not been so heavy, and the floor that it had not been so hard. In gratitude I had tried to engrave my name upon my rock, but it was of granit; or I would moreover, as the only tribute my grateful heart could pay, have recounted its praise the chilling rains it had protected me from; and the bleak winds it had warded off, and I would have declared it to be the kindest amongst rocks. The stiff necks, and sore hips and shoulders,

I now forgot, and I reluctantly left my alpine cave. How fortunate it would be for us, whilst in this jangling jarring world, could we but view the failings of those friends amongst whom we live, with the same charitable eye we do our parting or absent ones! Then peace would be oftener within our dwellings.

I descended the mountain again, and directed my steps towards the *Kofchar*. In my road there, at the foot of the *Fleisch-Bank*, my guide shewed me the remains of an ox, which had been grazing in some of the steeper parts, and had fallen down and was killed: and not far from thence were the remains of another which had been killed by a bear about a fortnight ago: this was, I think, the third which had been destroyed this summer by these animals. Yet the herdsmen are never attacked, though they stay out with their herds the whole summer through: the night they pass, as my guide did, amongst the *krumholz*, or by the side of some rock, where they make a fire; this is always agreeable in such a high situation, and sometimes indispensably necessary. The chronicles of these alps record, that even in the midst of summer, such severe weather sometimes happens, as proves fatal both to the cattle and their keepers. Some years ago, about this season of the year, one or two people were frozen to death here; and on the fourth and fifth of August of the year 1724, eight-and-fifty horses were frozen. My guide pointed out to me two or three places, where the people of the neighbouring towns and villages had been mining; they are all convinced that these alps are very rich in mines and precious stones.

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In the evening I reached the *Koschbar*, and there I found my retinue. This is a small wooden hut in the midst of a wood, built in the Swedish manner; that is, with barks whose ends are let into one another, something in the manner of, what carpenters call, dovetail work: it was only about six yards long, and three broad, and divided into two apartments, but by no means weather tight. In the first apartment the head shepherd, who is only a poor common peasant, lives, and makes the cheese; the other is the magazine where it is kept till it is sent to Kefmark, which is every week. The business of the dairy is very simple; the sheep are driven home thrice a-day to be milked, and each milking is immediately made into cheese, for no butter is made. The runnet is poured upon the milk whilst it is warm, which is presently after beaten together, and soon after this the head shepherd gropes together with both his hands all the curds. This appeared to be a difficult business, and lasted near half an hour; the curds then form one great mass, and are taken out together and put into a cloth, and hung up, but no pressure is used. The whey which remains is boiled, and acquires some consistence, and this forms the food of the shepherds, and their only food for the whole season; they have not even bread. After the shepherd and his men had eaten their supper, the men, of whom there were four or five, left the hut, and went and slept under sheds round the fold. We likewise laid ourselves upon the floor and slept. In the night the head shepherd got up two or three times and looked to his men, to see whether they were upon the watch; who always

always answered, to shew that they were upon their duty. . . . Great vigilance is requisite against the wolves, and with all these precautions these animals had carried off three sheep this summer. The day had been rather showery, and at night we had a storm of thunder and lightning, accompanied by a heavy rain. In the morning I took one of the horses feeding here, and transported my baggage to Rokus; and there I got another to Kefmark, where I passed a couple of days to dry my plants, and to repose myself; and then on Wednesday the 14th of August I set out again to ascend the Lomnitz Peak, the highest of the whole Carpathian chain.

I left Kefmark about noon, and transported the provisions, &c. to Alt Waldorf, where I engaged two chamois-hunters and a fresh horse. Though this village is quite at the foot of the alps, yet I think we were two or three hours on the march before we entered them, and it was nearly dark before we got to the *Glatstein* (smooth-stone). The path now became too rough and steep for the horse, we therefore took off the baggage and sent the horse home; and we resolved to pass the night here *à la belle étoile*. We had not even a good rock under which we could creep. The barometer gave our present height at 583 yards above the last village. The first thing the guides did was to fell a fir tree; for we had not yet ascended as high as the region of the *Krumholz*, and there was soon a fire big enough to roast an ox. As these were new guides, I had to hear nearly the same strange stories of inaccessible gold-mines, concealed treasures, &c. &c. as from

from my last: but comparing their accounts with those of Mr. Saussure, they seem to be better rewarded for the dangers they expose themselves to in pursuit of the *chamois* than the hunters of the Swiss Alps. One day's successful sport is more advantageous to them than a fortnight's or three week's labour; this is owing to there being some opulent nobility in the neighbourhood of these alps. In the morning my attendants took my baggage on their shoulders, and proceeded to the end of the *Klein-Koblach*, where there is an immense block of granite, well known to the chamois and gold hunters, and there we deposited it; for this was now to be our sheltering-place. But a dreadful accident here befell us, though no hare had crossed the road: my servant, who had taken charge of two or three large wooden flasks of liquor, just as he was going to take them off his shoulders, let one slip; it fell on a rock—burst—and its precious contents, which were to have supported us under our fatigues, and to have revived our worn-out spirits, were gone—for ever. A dejected look was visible in the countenances of every one of us. The perpetrator of the horrid deed had served against the Turks; and exclaimed, though a catholic, *it was to be so, it was decreed it should be so*. Gloomy fatality, friend of sloth and vice, and enemy to every active virtue, afforded me no comfort, but still appeared to me with its usual odious mien.

After reposing myself a little, and observing the height of my barometer, which gave our present elevation at 1789 yards above the level

level of the sea, I made a tour with one of my guides to the Five Lakes. These lie in a valley we came to after we had ascended the rocks which shut up the one I had chosen for my residence: they were thawed, though a good deal of snow lay still unmelted. I found nothing new in botany; I saw once or twice the *Certhia muralis*, and heard the Marmot: all is granit here. In the evening I returned to my rock, where I found a comfortable *Krumholz* fire to sit by. I had not long been here, and was engaged in looking over, by the light of my fire, the few things I had collected, when I heard myself addressed in German, with HIGH, WELL AND NOBLY BORN! ——— In such a solitary cell, and so remote from the world, and at night, to receive a visit, and to be addressed with such titles!!! ——— Though no fairy tale was floating in my brain, yet I could not conceive the blessed sound to come but from some aërial messenger sent to hail me KING OF PERSIA. On looking up, I saw not one but three ——— not ambassadors from heaven, but three poor devils with haggard looks and tattered clothes. ——— Ah! how often do the outward senses, careful guardians over the wanderings of the mind, correct its errors and repress its wanton freaks! These were neither botanists nor chamois-hunters, but gold-hunters, and by trade shoe or *chism* makers, from Kefmark, and all more or less tinctured with Alchymy, who were begging for permission to take shelter under my rock, and to warm themselves by my fire. The intrepidity and constancy of these men are surprising; they are even bolder than the chamois-hunters. ——— These poor fellows, like those gloomy moral-

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ists who conceive virtue to exist in suffering, and in the performance of some galling task which nature unwillingly performs, and are regardless of the little offices of kindness dictated by our own hearts, have had the misfortune to believe that mines and treasures are only found in the most inaccessible parts of the rocks : the higher these are, the more they are covered with snow, and exposed to storms, and, what is the most dangerous of all, to mists and fogs, the more eager they are to examine them : they honestly confessed to me, that they had visited these Alps, and with the same views, for the last twelve years, and had met with nothing, or next to nothing, and that they were about fifty pounds out of pocket ; but, like Alchemists, they hoped at last to succeed. False reasoning, on final causes, has in some degree led to this : these mighty works of God, they say, have not been created for nothing ; and then, ignorant of their importance in the œconomy of Nature, attribute to them an office for which they were never designed, that of producing gold, silver, and precious stones.

The wind at night was very violent, and roared tremendously amidst this world of rocks : the fleecy clouds fled rapidly across the moon, the friend of the benighted traveller, and cheerer of this dreary solitude : yet, though thus secluded from the world, we were not sad, but free from care and sorrow ; we thought and talked only of the sufferings of others. And chiefly of the chamois-hunter, who, in the eagerness of pursuit, had perhaps been led amongst the craggy

precipices of the impending rocks, and now benighted, starved with hunger and cold, and worn out with fatigue, must wait there, even destitute of his usual clothing, which he had thrown aside to facilitate his course, if life should still hold out this dreadful trial, till a brighter luminary should arise to guide his steps across the hideous chasms, which now surround him with all their horrors, when, perhaps, with the rising sun, fogs and mists would come on, and cover him in still greater darkness: and of the poor deluded gold-seeker, who, in search of unexisting treasures, might now be sinking in a half-thawed lake, or, fallen into some great cavern, must now bid an eternal farewell to his visionary projects. Nor did the suffering botanist, who might be lost, and now wandering amidst this world of ruins; or who in reaching at the supposed nondescript, and falling from these towering battlements of heaven, might now be groaning out his last breath amidst these un pitying rocks, without a single friend to condole with him in his distress, not share our commiseration. And thus we made our situation enviable by comparing it with that of others harder than our own: nor was my lot so hard; I led the life of the hunting state; my toils over, I sat with my companions in fatigue by the side of a cheerful fire, and caroused over a pot of hot grog. One of my guides having shot a Marmot, it was roasted, and it added to our feast.——How sweet are the smallest comforts of life when we lead an active hardy life!

In the morning, I had purposed to scale the Lomnitzer Peak, but the

the violence of the wind would not allow such a dangerous expedition to be attempted. I could therefore spare one of my guides: I sent off the most active in the morning to go down for another supply of brandy for my attendants, and with a letter to Mrs. Bersevitzy for some wine. Brandy, corn brandy, is to be bought every where; but good wine, in small quantities, is hardly to be bought any where: the good lady not only sent me a provision of good wine, but likewise of ham, tongue, and cold veal; and I contented myself with botanizing on the ridge of rocks which separates the two great vallies, the great and the little Kahl-bach; but I had very little success. This ridge of rocks forms precipices on both its sides, as well towards the great as the little Kahl-bach: it is composed of nearly vertical leaves, which lean towards the head or end of the valley, that is to the N. W.; and the rocks on the other side of the valley have the leaves likewise in the same direction. The gold-hunters had courage enough to set out in the morning in quest of treasure; but they soon found the weather too boisterous, and came back, and I found them on my return sitting at my fire.

The next morning the weather, though by no means very fine, was much better; and as I could afford to lose no more time, I determined to attempt to ascend the Lomnitzer Peak, with which, none in the whole Carpathian chain, except the Krivan, can in regard to height enter into competition. I took my barometer with me and both my guides, and left to my servant the care of my *household*

concerns. We ascended the rocks on the right of our valley, by scrambling up a ravine in some places filled with loose stones; we were, from the difficulties we met with, obliged at times to help one another, and the barometer incommoded me greatly. In less than two hours we reached the top of the rocks which formed the right side of our valley; but when there we seemed no nearer. Here we were on a slope, which seemed to reach almost to the top: it was covered with great loose blocks of granit. The clouds now began to collect about the foot of the mountain, and some fleeces ascended towards us: this made us halt, and consider whether it was prudent to go further: I insisted on ascending to the top of the slope, as we could, I thought, have found our way down again, though enveloped in mists and clouds. We accordingly continued our journey: when arrived there we halted again; for my guides were very unwilling to go further, for fear of the clouds rising up to us. After we had baited, and a heart-cheering dram had passed round, I insisted on ascending to the top; but it seemed to fly from us, or rather to grow up before us. When we had reached the peak, this was so steep, that, to get up, we were obliged sometimes to wind round it, and sometimes to descend, and then climb up the most craggy precipices, and sometimes walk upon the most dangerous shelves of the rock: but at last we reached the summit, and with my barometer in good order. I believe, I may safely say, this was the first that ever was upon it. I found it 1091 yards above our rock, from whence we set out in the morning; 2024 yards above the great valley from whence these Alps arise; and 2880 yards above the level of the sea.

Ascertaining the height of this mountain, was all I reaped from this laborious and dangerous expedition; for the clouds, which kept increasing, entirely deprived us of the fine and extensive view we must otherwise have had from this elevated situation. This peak was composed of grey granit, like the rocks at bottom, but with a small admixture of a greenish black terreous substance; except a few Lichens, it afforded me very little. The finest specimens of the *Senecio incanus*, and *Arnica Doronicum*, I found here, but not at the top; and the *Krumbolz* ceased to grow four or five hundred yards (perpendicular height) below the summit: I met with no snow in all this day's journey. The clouds rising higher and higher, made my guides more and more clamorous to descend; and indeed they had reason, for at best it was a perilous undertaking, and without good guides impracticable.—The chamois-hunters even, when caught in a mist amongst these precipices, are often obliged to wait hours together until the weather clears up, or a favourable blast dispels for a while the hovering mists. We descended nearly by the same way we had ascended, and in our way we heard the gold-hunters, in some deep chasm, hammering at the rocks. My guides hollaed to them, and they answered; but we could not see one another on account of the mist: we reached our rock in safety in good time. Soon after the gold-hunters returned, with hungry stomachs and empty bags.

I made many enquiries of these guides, as well as of my last,
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to know whether there were any Alpine Quadrupeds except the Marmot and the Chamois in these Alps, and they said there were none. The latter animal is here commonly called *Stein Bock*; though *Gems* is the proper denomination in German, which is the common language of these parts: and as *Stein Bock* is the German appellation for the *Capra Ibex*, Mountain-Goat, some have supposed that this animal was really an inhabitant of these Alps. This is the opinion of Mr. Windisch, the Hungarian geographer; and Mr. Zimmerman, in his very ingenious *Tabula Zoologica*, has fallen into the same error; nor is the *Antilope Saiga* ever found in this part of the Carpathian chain, as far as I could learn.

On the *Krumbolz*, which grew near our rock, I found a small caterpillar striped with black and green; it was in great abundance, and had in some places devoured almost all the leaves of these trees. Are not these the worms pretended to be generated from snow, mentioned by some Hungarian authors? As Bell, for instance, in his *Prodromus Hungariæ*, who, speaking of these very Alps, says, "Hanc perpetuis obstitam nivibus videas, quas ex situ, vermium quoddam genus concipere, asserunt, qui viderunt." I brought some away with me, with a view to examine them accurately; but, alas! as it often happens in such tours, they were lost.—The next morning I returned to Kefmark: in descending I saw a great many of the *Turdus torquatus*, Ring Ouzel, amongst the *Krumbolz*.

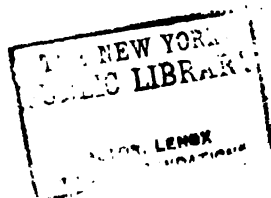
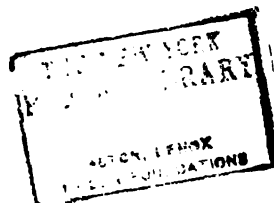
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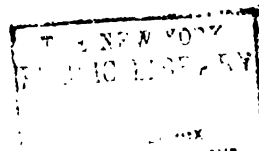
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C H A P. XVI.

KESMARK TO VASETZ—THE KRIVAN MOUNTAIN.

THE evening after my return to Kesmark I walked over to Nehre ; here all was joy and merriment. The wedding-day of a near relation of Mr. Horvath was kept here : besides feasting there was dancing. In genteel company French dances are in use ; but we had some rough school-boys, who danced in the Hungarian style, like the recruiting parties at Pest : and besides the flapping of hands on their breeches and boots, and the jingling of spurs, this was further improved by the dancers throwing themselves on the floor in strange postures, and with such violence as though they were *des possédés* : these dances are sometimes called gipsy dances. Towards twelve the music struck up a march ; the bridegroom then took his bride by the hand and conducted her to the temple and altar of Hymen, and the whole company followed ; there we took leave of them, wishing them every kind wish. A very, apparently, strange question had been put to me by a young lady a few days before concerning this wedding. She said to me in German, with a great deal of coolness, “Pray, Sir, do you know when the *copulation* is to take place between Mr. — and Miss B.?” I stared, and blushed, I dare say, likewise :
upon.

upon this she repeated the question, and, thinking I did not rightly understand her, laid an emphasis on the pentasyllable. As I still paused, she said, "Sir, when are Mr. — and Miss B. to be married?" — If I had thought at the time either in Latin or in German, there would have been no *double entendre* in it; but I thought in English and French. Yet we will charitably hope that in both senses it took place whilst our globe now made its diurnal revolution, and that within this period both the ceremonial and the essential part of matrimony were celebrated. The next day I took leave of this kind and hospitable family, and returned to Kesmark.

This town and neighbourhood manufactures a good deal of linen, and even figured table linen; and, when Poland was in a flourishing state, carried on a considerable trade with it in wines, as this is the nearest Hungarian *entrepôt* for this article; and from hence there are passages through the mountains into Galicia: but this trade has now much declined.

Dr. Pfeiffer has for many years been cultivating the *Isatis tinctoria* upon a pretty extensive scale for indigo: some of this, which he assured me was of his own fabric, appeared equal to the best Spanish indigo; but the misfortune is, that the price is as high, or higher than the real indigo: the lower sorts are only used by the dyers of Kesmark. But the climate of this part of Hungary he finds to be too backward; he is obliged to manure the land, and cannot pluck the
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leaves

leaves more than, I think, twice a year. He or some of his friends are making attempts with it in the more southern parts of Hungary. The inhabitants of this town amount to near 4000.

I finally left Kesmark the next morning, the 20th of August, and continued my tour westward. The corn harvest had commenced a week or ten days before, and now every body in this part of the valley was in the midst of it. Barley, oats, and rye are the principal grain cultivated here; wheat is only sown in small quantities. Flax is a staple commodity; and there is a method in use here of breaking and beating it, after it has been steeped and dried, which appears to me very convenient: this is by the means of stamps, such as are used in pounding of ore before it is washed on the hearth, only these are entirely of wood, as the bottom likewise is on which they fall: velocity of motion rather than weight is required. They are in general an appendage to a corn-mill; and to such they are but a very trifling additional expence. The owners of the flax manage it themselves; and all they have to do is to put it under the stamps, turn it about, and take it out again. The *douceur* to the owner of the mill is very trifling.

Groß Schlagendorf is only a stage distant from Kesmark. Here I stopped, and dined with the Lutheran minister; and I intended after dinner to have continued my journey: but I found him a botanist, and a sensible good kind of man. I therefore was readily prevailed

on to stay the night with him. He had collected a few plants from the neighbourhood, and some alpine ones; but none which I had not found. His taste for botany he acquired at Leipzig, where he had studied. But the desire of knowledge generally flags when we have none with a similar taste to communicate with: many years had slid away without a single conversation with a botanical friend. I was a good deal surprised at first on entering his room, to see in the window the *Systema Vegetabilium* of Linnæus. We planned two or three excursions, but the next morning was rainy, and prevented us from stirring out till after dinner. We then walked up to the rocks at the foot of the alps to a spa; it is pretty sharp with fixed air. All the rocks here are granit.

The next day we took a walk further up in the mountains, to see a rock which some of the inhabitants of Kesmark were working for the sake of the garnets which it contains. But these *precious* stones, which are found in a kind of foliated granit, are the same coarse kind that are generally found in similar rocks. Where the *mica* lies in the greatest quantities, there are the garnets; so that detached specimens belong to the *Gneissum glandulosum* Syft. Nat. *, though the rock itself is the *Gneissum alpinum*. This is the only rock of the granit kind which I had hitherto seen in these mountains, which had

* *Gneissum glandulosum*,

Ex mica nigra & granatis rubris compositum.

any

any thing of a foliated texture ; and here it was only partial, forming short thick veins and patches amongst the common granit. The *Ring Ouzel* and the *Corvus Caryocatactes*, Nut-cracker, were very common in the woods, and Marmots amongst the rocks.

In returning home in the evening we met some peasants on a party of Bear shooting. The valley which lies at the foot of this chain of mountains is cultivated to their very foot, and the bears at night leave the woods, and come into the corn-fields, and eat the corn. These peasants told us, what indeed I had heard before in Dauphiné, that these animals draw the standing corn through their fore paws, then rub the detached ears between them, blow away the chaff, and eat the grain. One of the party had nearly lost his life a few years ago in this diversion: seeing a young one alone, he fired at it and wounded it, when he was immediately attacked by its mother, who had been concealed by some bushes: at one blow of her paw she brought off a great part of the scalp. Besides protecting their corn, the peasants have another inducement to shoot these animals: this is the profit arising from the sale of their skins, one of which brings them two or three guineas. However savage these animals may be, they seem to be less so than that species of animal called man; for children go into the woods and collect the berries of the *Vaccinia*, &c. which is a depredation on the bears, who feed upon them, without there being an instance of their having received an injury from them; nor has any person, without making the first attack.

The next morning I pursued my journey westward, accompanied by my host. We stopped at Botsdorf: the *Judex Nobilium*, Maryaschy, not being at home, for whom I had letters of introduction, we called at the Lutheran minister's, and dined with him.

In the afternoon I went and examined the rocks which form the south side of the valley; and here these, coming down from the Konisberg, extend so much to the north, as almost to unite with the great Carpathian chain. They are of compact unstratified-lime-stone, like that of the *Fleisch-Bank*, and of the rocks and hills of the county of Gomer.—In half an hour's investigation I collected several rare plants. On one small rock I found the *Campanula carpatica* and *Campanula lilifolia*, *Daphne Cneorum*, and *Gentauria montana* growing together; and in crossing a brook, which lies between these rocks and the village, I found the *Epilobium Dodonæi* in great abundance. The Slavonian language here begins again to be spoken; and in this language the minister addresses his congregation.

In the morning I went to Czirba. I waited upon the Minister, who received me in a very friendly manner, and invited me to see a lake in the mountains. We took a ride there. Though Mr. Korabinsky in his map has placed it close to the village, probably from its bearing the same name, yet it is three hours distant, and amongst the mountains. It is five or six times as large as any I had hitherto

seen, and had some water-fowl upon it. I returned immediately, and, though pressed to stay the night, I pushed on to Vasetz: and there, as usual, I put the minister to contribution; for, as this is not a much-frequented road, there are no inns upon it, only *cabarets* where the peasants drink their brandy. And the Lutheran ministers or pastors, though not possessed of the great incomes of our clergy, are at their ease, and can exercise the kind offices of hospitality towards a stranger. They seem to be in regard to income about on a level with the Scotch clergy.

Vasetz is the highest situation in the whole valley: the harvest here was only beginning: and the water coming down from the mountains runs now to the west: hitherto it had run to the east. I had chosen this village as the place from whence I intended to ascend the Krivan. This is generally said to be the highest of all the Alps in the Carpathian chain; but this opinion is not supposed to be founded upon any measurement.—As I purposed to pass two or three days upon it, it was necessary to carry up some provisions; and, as usual, I ordered a horse for the next morning; but here was the most drunken and idle village judge I had yet met with. He disappointed me; and as the horses were all grazing in the mountains at three or four hours distance, I was obliged to defer this excursion till the next day. This was a great mortification; for the weather was very fine, and the Krivan, having got in the night a cap of snow, looked sublime.

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The next day I was equally unfortunate, and through the same cause; but my botanical friend of Groß Schlagenndorf, who had promised to be of the party, came with a light chaise and three horses, and we set off, but much against my advice, in the chaise. The chaise itself, from the badness of the road, soon became a sufficient load for the horses, and, as we ascended, the road became worse and worse. It was the road by which timber from the woods, which cover the lower part of these mountains, is brought down. Though there is a winding road even as far as the old Gold mine, which is situated above three-fourths up the mountain, yet we were glad to leave our chaise behind us before we had reached half way up to the mine, and transport our provisions ourselves. We lost so much time, and the distance was so great, that it was late in the evening before we reached the mine, where we had agreed to pass the night, as we knew there was a shed here, which some years ago had been built as a shelter for the miners.

In travelling amongst alps, there is in general a deficiency of every thing except water; this even failed us here, and we were at a loss for some time to think what we should do. We had plenty of brandy, an excellent thing as a dram, but no substitute for water. But adverting to the frequency of water in mines, I sent my servant to see if there might not be some there; he found but little, yet a great deal of ice: this we melted in a tin drinking cup, over the fire which we made with the remains of the old shed. There could not have been a worse place
for

for passing the night at, if it had not been for the remains of the shed, than this; for no *Krumholz*, or any other kind of wood, grew here, and the roughness of the climate may be conceived by the ice we found in the mine and by the height, which by the barometer I found to be 1425 yards above Vafetz, and 2318 yards above the level of the sea: and the shed was of more use to us as fuel than as shelter; for the top was off, and the sides were almost down.

At night the wind was very boisterous, and often threatened to blow these crazy remains in pieces. In the middle we made our fire, towards which we turned our feet, and our bolster was a beam of wood. This gave rise to some sparring amongst us; for we could not leave it to get nearer the fire, and we happened to be very disproportioned in respect to the length of our bodies: so that, whilst the minister of Vafetz, who was five feet nothing, was complaining of cold, I, from being five feet something, and in the middle, as the *place d'honneur*, and my brother botanist, from his hexapodal length, were, at least so far as concerned our feet, too hot. We therefore agreed like a little family composed of members with different interests. The morning was as windy as the night, and we had some mists. Though from the nature of the rocks I had no expectation of a rich botanical harvest, yet I was very unwilling, after having had so much trouble in coming thus far, not to ascend to the top of this mountain; for it is generally said to be the highest; and this is the opinion of Mr. Fichtel*, who supposes its height somewhat

* Fichtel, Mineral. Bemerk. von den Karpathen, page 10.

to exceed 2000 fathom above the level of the Danube. My spiritual friends were not only very unwilling to turn out to scale the top, but they absolutely refused to accompany me. My guide was equally unwilling, and assured me solemnly, that he never was at the top, and knew not the way. My servant was not more inclined than the rest, but made it a point of honour to run the same risk as his master; and when the guide saw I was resolved on setting out without him, he likewise promised to accompany me. Whilst my spiritual friends were thinking whether it was prudent or not to run this risk, and expose such consecrated vessels to so much danger, a violent squall came on and carried away the remains of the shattered roof of the shed which former blasts had respected. Like as the *take care of number one, and charity begins at home*, of an officious unfeeling friend, when generosity and selfishness are pleading their opposed interests in the feeling breast of an irresolute man, often determine the equipoised balance in favour of the latter, so this pitiful blast determined my friends to leave me; and when I set off to go up the mountain, they set off to go down it.

After walking about an hour and an half chiefly over great loose blocks of granit, I reached the top; and the first thing the guide did was to take up a stone, under which were two or three trifling copper coins that a former traveller had hid there; and now the fellow acknowledged that he had been on the top several times. This mountain is by far the most easy to ascend of any I had yet met with

with in this tour, and by keeping on the *lee* side we were very little incommoded by the wind. Here I collected nothing: the rocks were covered with the same Lichens I had found in much lower situations. My barometer was still in good order, and showed the height of this mountain to be 2781 yards above the level of the sea, and 1888 yards above the village of Vasetz; the Krivan is therefore something lower than the Lomnitz Peak. Clouds and mists which prevented the prospect, with the barrenness of the rocks, soon made me return to the mine: and here I had no inducement to stay; for these rocks were no less barren of alpine plants, and the mine was soon seen. It is only remarkable on account of its very elevated situation, which is the highest perhaps of any one in Europe. Though it is now quite forsaken, yet the excavations still remaining, and the road to it, after the woods cease, which is quite a made road, show that it must have been of some real or supposed importance. The road was made by the Emperor Maximilian. The ore is native gold in a small vein of greyish white fat *Quartz*, but in so small a quantity that a guinea's worth of this gold has always cost two or three guineas: the vein is in granit. Having no motive to remain here, I hastened down to Vasetz.

C H A P. XVII.

JOURNEY TO WIELICZKA—THE SALT MINES—CRACOW—AND
RETURN TO PRIBILINI.

IN a tour, as in the journey through life, something new, as we proceed, is constantly occurring, which leads us from our original plans, and engages us in new pursuits. Here at Vasetz I was informed, that at Pribilini, which was only a stage distant, there was a passage through the mountains into Galicia, and that from thence I might easily reach the famous Polish Salt Mines in a couple of days.

Though I was very desirous of being soon at the Hungarian mines of Schemnitz and Cremnitz, yet I could not withstand the temptation of the Polish salt mines; and indeed, having *only* the Carpathian Alps, and a two days journey over hills between us, it would have been unpardonable not to have seen them. Who amongst men that has heard of Solomon's being the wisest man, and Samson the strongest, has not heard of these mines? where, according to some accounts, there are subterranean towns, and subterranean republics, and where the infernal regions and their inhabitants are inimitably represented, and likewise the regions of the blessed.

I was

I was soon at Pribilini, where I took up my quarters with Mr. Jonas Pomgratz, the only nobleman here. Though he lived in a pitiful cottage, and his income was so small that he condescended to retail brandy, wine, and small beer to his villagers, and that in person, yet I found him well behaved, hospitable and friendly. I was hardly in the house before a flippant young man entered, stared at me, and then asked me for my passport. I told him I had none. Upon this he began a conversation in Latin with my host, enquiring who I was, and asking many absurd questions, and throwing out many silly surmises concerning me. His self-importance was so ridiculous, that at last I burst out in laughter; when, finding that I had understood what he had said about me, he seemed ashamed, and begged my pardon for having entertained any doubt of the respectability of my character. This young man, I learnt afterwards, had lately obtained some small provincial office.

The next day, the 29th of August, I put a small portmanteau on a horse, and set out on foot for the famous salt mines. We passed first through thick pine woods, and then entered the mountains, and kept gradually ascending, always winding amongst the vallies. The passage was noways dangerous, and very easy till we came to the ridge which forms the limits of Hungary and Galicia; here it became more difficult, though not dangerous: the descent on the other side, towards Galicia, is very rapid.—Granit rocks and gloomy pine forests had hitherto surrounded us; but here, on the limits, the scene

greatly changed. The rocks now before us were lime-stone cliffs, and these formed the most beautiful scenery; which, with but little of Imagination's kind assistance, who often heightens the beauty of our other prospects, represented amphitheatres, Gothic sanctuaries, lofty towers and ruined castles; which were intermixed with stupendous precipices and dreadful chasms; and as we descended and passed amongst them, they assumed new resemblances. The sun shone full upon them, and greatly increased the beauty of this noble prospect. From the bottom of several of these rocks the most copious and limpid streams flowed. Nothing but the want of time prevented me from spending a day or two amongst them: they are the finest rocks for alpine plants I ever saw.

I reached Kostelesko early in the afternoon, and would have pushed on further, but my guide pretended his horse was knocked up and could not proceed. This is still amongst the mountains; but Kostelesko is not a village: here are only two or three houses for the miners, as in the neighbourhood some mines are worked, though of small importance. The ore I was shown was grey copper; I could not learn in what kind of rock the vein runs. I had here only miner's fare—a bed of straw, eggs and coarse bread.

Early in the morning I continued my journey: the hills became smaller and rounder, yet the first were still covered with firs: on the pastures a considerable quantity of cattle were feeding, and we

passed several *Kofchaks*; and then to the woods and pasture lands succeeded corn land, and here no want of cultivation or population struck me. Withof was the first village I came to: here I changed my mode of travelling; I sent back my horse and man, and procured a pair of horses and a peasant's cart. Whilst I was waiting for my horses, I went and examined some rocks in the neighbourhood: I found them composed of strata of sand stone and clay. The peasants were busy getting in their corn harvest, which consisted of oats, barley and rye. Not only no want of cultivation or population I observed on entering Galicia, but the villages did not appear worse built, nor their inhabitants worse clad, than on the other side of the Alps.—Dunavitz was the next stage. I reached this place early in the afternoon; from the judge not being at home, and through other trifling misfortunes, I was detained here all night for want of horses. I had seen that inestimable gift of Nature, the potatoe, on the other side of the Alps: here I ate some; they are not considered as a delicacy, but form a considerable part of the food of the peasants.

Early in the morning I left Dunavitz; and after traversing a few miles of flat pasture land, I ascended a vast chain of sand-stone hills. The road is frightfully and almost impassably bad: it is generally nothing more than the bed of a stream or torrent. I however arrived safe at Raaba, and I stopped at the town-house for fresh horses. As this was Sunday, the street was full of people: two of the smartest of the crowd came up to me with many bows and compliments; and

as

as I supposed they were the Squires of the village, who were coming to invite me to their chateaux, I returned them as many ; for, as I had entered, passed through, and gone out of Hungary, without a single visit from a custom-house officer, I never once dreamed of being molested by any here : however, they soon after explicitly informed me what they were. They ransacked my baggage, and wanted to take away some trifling things ; but on my insisting that they should give me a receipt for them, they returned them. They gave me some very broad hints that a trifling *bono mano* would be very acceptable to them, but I gave them none. My next plague was the judge, who made a thousand objections to my demand for horses, till I pulled out the great *Imperial pass* loaded with seals, which I had obtained since my Leutschau misfortune. As this was in Latin, I made him believe it ordered him to provide me with horses ; and as soon as I knew that the custom-house officers did not understand Latin, I gave it them to read ; and they agreed that the judge must immediately procure me them : and he now set about it ; but I had to wait two or three hours before they came.

Some heavy rain fell, and the town-house, which served as a kind of public house, was filled with company as soon as the divine worship was over. Beside the church, there is something else which serves to bring many of the country people to the principal village or town, on a Sunday. In some parts of our island, remote from the capital, it is not uncommon for the clerk, to give notice publicly
after

after the service is over, that on such and such a day so many fat hogs, &c. are to be sold. The Sunday here is the market day, not only for flesh meat and other eatables, but for all the wants of the country people: the wall of the church-yard was hung out with knives, and ribbands, and shoes, and gingerbread, &c. &c.——The business of the day, that is hearing mass and trafficking, being over, recreation succeeded, and this began about noon. It consisted of dancing, and drinking of brandy. The dancing was a good deal after the Hungarian manner, mixed with *Walzes*. As the men were mostly in *Botchers*, or sandals, and not in boots, the music of the spurs was faint; but the ladies wore yellow leather boots. One or two of them invited me to be their partner; but besides the want of space and air, two of the first requisites in dancing, I observed that the ladies, after blowing their noses with their fingers, wiped them on the shoulders and skirts of the coats of their *chapeaux*. Goitres and sickly looks were apparently not uncommon in this district.

My horses at last came; and though it rained, I was very willing to set off, to get out of this stinking hole and on my journey. The road was the same as before, over sand-stone hills, and in the beds of brooks and rivers. I was so desirous to get on, that though the road was really dangerous, and very much so in the dark, I continued travelling till near ten at night, when I descended at a kind of public house. This was nothing more than a very large shed or barn; at one end of which there was a hearth, and a few embers
on

on it ; neither eggs, butter, cheese, nor milk was to be had ; nothing but coarse bread and brandy. As usual, I lay upon straw.

I was off again in the morning before sun-rise ; the same vile road still continued. Michlinitz, which was the first place I reached in the morning, although a pretty good town, has not a single inn ; but an old German soldier whom I consulted on the important, and here difficult business of obtaining a good breakfast, conducted me to a house which was made use of as an inn. I was shewn into a tolerably good room, with three or four square tables in it, like a coffee-room ; and as such I believe it occasionally served, though it served likewise as a laboratory for tailors. I now got good white bread and butter ; and as I had taken the precaution of having a small supply of chocolate with me, I fared pretty well ; and from the number of headless ducks and unfeathered fowls that were lying about the kitchen, I believe a good dinner, on giving notice, might be had likewise. If we should consider division of labour as any sign of the state of civilization of a country, we should be induced to form a very unfavourable opinion of Michlinitz, and of Galicia in general ; where it seems the business of an innkeeper is not yet known as a distinct and separate calling.

My breakfast over, and my horses fed, I continued my journey, and over the same sand-stone-hills. I have often lamented, that from the want of a proper education, peasants too often justify the remark contained in these old verses :

Quando

Quando mulcetur, villanus pejor habetur;

Pungas villanum, polluit ille manum.

Ungentem pungit, pungentem rusticus ungit.

My driver was a striking example of this: when we set out from Raaba, he respected me so highly, that he was afraid of getting upon his own cart, in which I travelled, and ran by the side. Out of good-nature I made him get up. His respect for me from this moment gradually diminished, till before the evening was over he became almost insolent. This increased so far to-day, that I was obliged often to threaten to knock him down; and, had the journey lasted half a day longer, I do not doubt but I should have been compelled to put my menaces in execution. But I soon reached the long-looked for Wieliczka, though not before my cart was overturned, and so completely, that myself and baggage were turned out into the road; yet no damage was done, my barometer was not even broken.

Wieliczka, a place so much frequented by travellers, to be without an inn, it will hardly be credited; yet it is true, it has no inn. I sent my servant in one direction, whilst I went myself in another; but we were both equally unsuccessful: we found one or two houses which had a spare room to let; and one or two places where something to eat might be had; but such a thing as an inn was not to be found. To one of the latter, a kind of eating-house, though upon a very small scale, I was compelled to go; and in a short time I had

three or four excellent dishes with their requisites, good bread, good cheese, and good wine, set before me. After dinner I consulted with my hostess about a lodging; she candidly acknowledged she had no accommodations for me; but would for a day or two give me a spare room. Though this was so far from having a bed in it, that it was even without a bedstead or a chair, yet I was obliged to accept the offer; for I had no time to lose in looking after better accommodations, and there were but little hopes of succeeding if I had. Baron Verner, the director of the mines, being out of town, I waited immediately after dinner upon the next in authority, the *Ober Bergrs-Verwalter* Seling. He received me in a very friendly manner, conducted me about the salt magazines, and shewed me the machinery and every thing which lay aboveground, for it was too late to see the mines; and he invited me to breakfast with him next morning, and promised then to give me a good guide.

The next morning, after breakfasting with this gentleman, I visited the mines. I was let down in the most convenient manner, being seated on a belt, with another behind my back. Some workmen descending at the same time, and the belts being fastened to the cable one above another, there were two or three tiers of us. I could, as it is generally the case, by my own observations learn nothing of the strata through which I passed: but the following account of the strata covering the salt, I received from a most intelligent man:

Vegetable

Vegetable soil	- - - - -	2 fathoms.
A sandy kind of clay, called by the Germans <i>Leim</i>		5
A very fine sand like Tripoly, effervescing with acids.	}	3½
It is here called <i>Triebsand</i> ; in Polish, <i>Sus</i>		
Marl with sand, and mixed with loose stones	-	9
Sand-stone	- - - - -	1
Marl mixed with salt in small particles and cubes		20

Such luxuriant accounts have been given of these invaluable mines, that every modest account of them must now be found dull and insipid. I shall therefore confine myself to those things which interested me as a naturalist. The commodiousness of the galleries, and the fine broad flights of steps, must not be passed over in total silence, as being in perfect contrast to what is met with in other mines; and the dryness is not less remarkable. Instead of mud and dirt, I was rather troubled with dust. This probably is caused by the attraction of moisture by the salt; neighbouring bodies are by this means deprived of their humidity, and the salt which has attracted the humidity is taken out; and then fresh surfaces are exposed, and the little communication the mines have with the open air prevents a quick supply of humid air. It is to this dryness that we must attribute the durability of the wood employed in supporting some part of the mines. It remains here for generations without rotting, though in ordinary mines ten or twenty years are often sufficient to bring it to total destruction.

The scientific traveller is often much incommoded by common travellers through their numbers setting the taste, and deciding what are the things most worthy of notice ; he is by this means hurried about by his guides, from one trifling thing to another, and is perhaps never shown objects of real curiosity. Great excavations famed for their echoes, and a chapel cut out in the salt, were the first things I was carried to see. Some of the former are so vast, that a house of many stories high might be built within them. The chapel, in which formerly mass was celebrated two or three times a week, is entirely of salt, even to its altar, and its ornaments of columns, pillars, arches, statues, &c. &c.

The first thing that drew my attention, was the appearance of immense blocks of salt being embodied in the salt-marl. As I walked through the galleries, sometimes I saw the upper, sometimes the lower end of a block ; and often, though the galleries were three or four yards high, both were still concealed, and I could only observe its breadth. In some parts these blocks formed the sides of the gallery for fifteen or twenty yards, as the galleries had been cut through them ; but now and then, when the fragments were small, all their dimensions (on one side) were exposed.

These blocks must not be considered as rarities ; they form the upper bed, from whence the whole of the salt called Green Salt is dug. In one of these, I believe, the chapel is dug, and the
great

great excavations I lately mentioned, which are called Kammers (chambers), of which there are forty or fifty of different sizes, have been made by digging out the salt lying in such huge blocks. Their angular shape is sufficient to show that they were not originally so formed, but that they are fragments of an immense thick bed of salt, which by some catastrophe (many of which our globe, I mean its surface, has certainly undergone) has been broken in pieces.—Blocks likewise of sand-stone are found sometimes imbedded in the same salt-marl. This marl itself is strongly impregnated with salt, which universally pervades it in the shape of irregular crystals. From the abundance of pure salt, this is thrown away; but in many countries of Europe it would be of immense value. After wandering a good while amongst the *Green Salt*, I was conducted lower to see the *Szybicker Salt*. This forms a bed; and, where I saw it, two or three yards thick. This is the purest sort, and is only exported to Poland, or other foreign countries; for the emperor, like a provident master of a family, suffers only the worst to be consumed by his own subjects. This is politic, but hardly just: it is hard that the Galicians should not be allowed to enjoy what Nature has given them in such abundance. This regulation took place under Joseph II.; and the reason was, that by none but the best sort being sent into foreign countries, a greater demand for it might be induced; and then the *Green Salt* could not be thrown away.

The

The green salt, which is reserved for Galicia, derives its name from a greenish or rather blackish cast it has. The cause of this colour is easily found out if the salt is examined with a lens; it is then seen that it is throughout scattered with remarkably small roundish black grains, like fine gunpowder *. These grains, I think, are of the nature of argillaceous schistus: they are easily scratched with a pin. In other respects the *Green Salt* is like the *Szybick*, which is sparry †.—All the salt here is used as produced by nature: no art of any kind is made use of, except in taking it out of the mines; and this is very simple. Where I saw the miners at work, they separated large squares of salt from the salt rock on both sides by deep fissures: they then further detached it by cutting away the salt above and below; and when only connected behind, wedges were driven in here, and the whole cube was thrown down at once. But other methods are taken, and gunpowder is even used. These great blocks are afterwards hewn into the *batwans*, which are shaped like barrels, some of which, according to Mr. Guettard, are so large as to weigh four or five *milliers*; that is, about two ton and a half. Those that I saw certainly could not be half this weight. They are

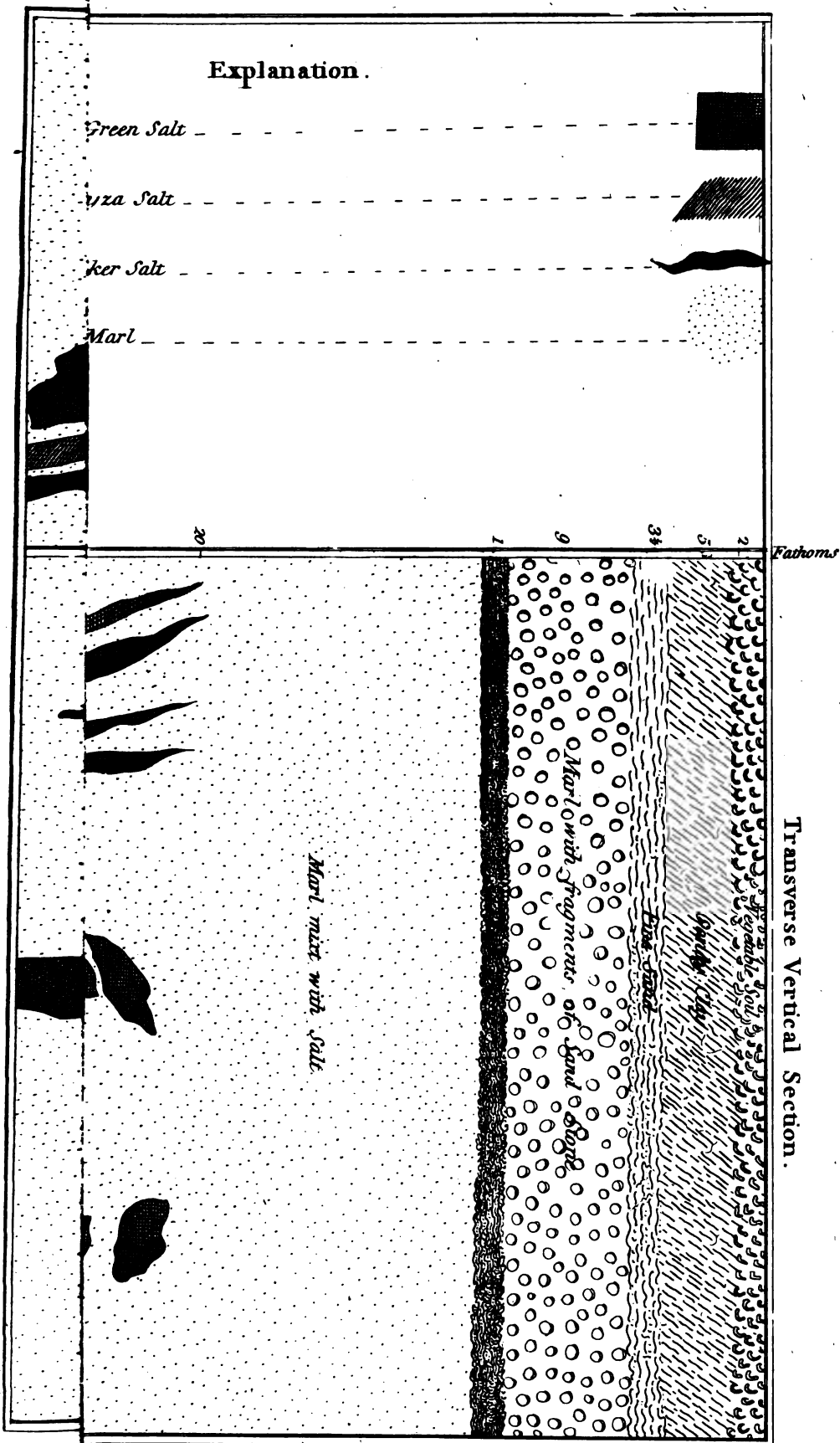
* In Polish it is called Makowka, from Max, signifying Poppy Seed.

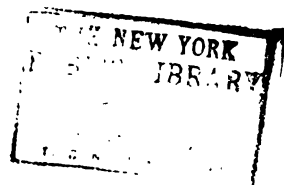
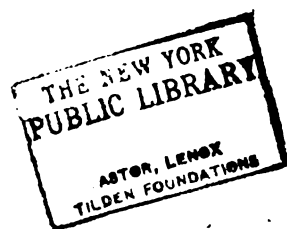
† Muria spatosa. Szybick Salt.

Spatosa diaphana, lamellis minoribus.

Muria spatosa. Green Salt.

Spatosa dilute nigricans subdiaphana lamellis parvis, granulis rotundatis nigris mollibus minimis inspersis.





likewise cut into oblong squares of about a hundred weight and a half; the small fragments are put into barrels.

How far the bed of *Szybicker* salt extends is not known; but after mining six hundred fathoms from east to west, and two hundred fathoms from south to north, salt is still found.——For fear of water, the miners are careful not to dig deeper to ascertain the nature of the stratum beneath the *Szybicker* salt. A hundred and twenty fathoms is the greatest depth of these mines.——These two kinds of salt form the riches of the *Wieliczka* mines, from which about six or seven thousand hundred weight is annually dug. The green salt is sold to the Galicians at two guldens and seven and a half creutzers (about four shillings and three-pence) the hundred weight. Five hundred men are employed in them; but these do not live here as some have pretended, but come out when their hours of work are over, as in other mines.

Both salt and fresh water are in these mines. From the first, salt formerly was made by boiling it; but on account, I believe, of the dearth of fuel, this practice was given over in 1724: it is now drawn up in leather sacks to keep the mines dry, and is thrown away. The fresh water is in small quantities, and serves for the horses: there are twenty-four, and they constantly live here.

It often happens that the richest mines are the poorest in mineralogical

logical curiosities; these afforded me none but the *Kroefstein*, or *Pierre de trippes*, and a sparry parallel-radiated salt. Some Mineralogists have considered the former as *Gypsum*, others as *Barytes*. Its specific gravity, which is 2,903, has probably led to this latter supposition; it appears from Mr. Born's *Catalogue Raisonné*, that this was his opinion. Its great weight induced me to send it to the celebrated Mr. Klaproth to be chemically investigated, who informed me that it was nothing but *Gypsum*. Its form is very remarkable. Under the Szybicker salt I detached pieces quite flat, about an inch thick: in other places I saw it forming small veins, sometimes running in straight lines, sometimes very serpentine: Plate the 9th represents it in this shape. At other times the undulations are very deep and close together, as represented by the 8th plate. These two specimens I have in my collection; they were given me by Baron Verner, and came, I believe, from the Bochnia mines, where the finest specimens of this fossil are found. But the specimen from which the 10th plate was drawn, which was given me by Mr. Lebzniterners? the engineer, a most intelligent and obliging man, and a very good mineralogist, is from Wieliczka. I have small specimens of it likewise in a botryoidal form. When it is taken from the mine, it has a blueish cast, and is somewhat diaphanous; but after it has remained in water a short time, it becomes of a pure white, and perfectly opaque; and something of a confused very fine fibrous texture may then be observed. It is often mixed with another kind of gypsum, which does not lose its transparency by remaining in water, but is somewhat soluble in it.

This



Weston.

London, Published by G. & J. Robinson, Pall Mall, New York, July 1st 1796.



Shrettonia

London, Published by G. G. & J. Robinson, Paternoster Row, July 1st 1865.

This is represented at 4 in the 10th plate, where it in a manner surrounds the other gypsum, and it forms the streaks in the specimen represented plate the 8th: one of these I have marked with an *.

The parallel-radiated salt † is a very beautiful fossil, and is found here in great plenty: it forms in some parts pretty thick veins, and is evidently, compared with the other salt, a thing of modern formation; the fibres or rays run across the vein like the *Inolithus* or *Stirium*.—Where water percolates through the roof, superb botryoidal stalactites of salt as white as snow are formed.

Mr. Fichtel having given it as his opinion that the salt mines of Transylvania belong to the primitive materials of our globe, I was anxious to see if here, as in other salt mines, there were not some medals of the reign of Neptune to be found. In the heart of the *Szybicker* salt I could not learn of any having been seen, but many in the marl enveloping the blocks of green salt. I am indebted to the Engineer for a specimen of marl containing two bivalve shells, found thirty-six fathoms deep; for a crab's claw in the same, found at 40 fathoms; and a piece of charred coal mixed with salt and the lately mentioned gypsum, found at a hundred fathoms.

I wandered about in these vast subterranean excavations for four or

† *Muria radiata*.

Hyalina, radiata radiis parallelis parvis.

five hours, yet I saw only a small part of these mines ; but as I was informed I could see only a repetition of the same things, I was satisfied, and came out.—Baron Verner being returned, I waited upon him in the afternoon ; he received me in the kindest manner, and invited me to breakfast and dine with him the next day, which I accordingly did, and he gave me leave to pick out from his own small collection, a few choice specimens of the lately mentioned gypsum. What grounds Mr. Carosi had for being so displeased with the directors of these mines I don't know ; I had every reason to be contented. He says he was obliged to disguise himself, or they would probably have refused him permission to see the mines, and obliged to conceal the specimens he wished to bring away with him : this must have been a particular case ; I was allowed to carry off every thing I could find.

A day's journey from hence is Bocknia, another salt mine, but not so rich.—On both sides of the Carpathian chain, the country is stored with salt ; and that from the Marmorufs on the south, and that from these mines on the north, are perfectly alike.—On the south side it begins at Eperies, and extends eastward through the county of Marmorufs and Transylvania, which are immensely rich in salt, as far as Cronstadt ; and Mr. Fichtel enumerates a hundred and fifty-nine different places where either rock salt or salt springs are found. Here, on the north side of this chain, it exists in great profusion ; first at Wieliczka, then at Bocknia, again at Sambor, and in
the

the Buckovine and Moldavia, as far as Okna by Rimnik; and in this run Mr. Fichtel enumerates fifty-eight different places.

It is worth remarking, that the present rude inhabitants of Moldavia and Transylvania, who live in the neighbourhood of salt springs, have the same method of procuring salt which was common amongst the ancient Gauls and Germans; this was to pour gradually the salt water upon a wood fire. Pliny says *, “*Galliæ Germaniæque ardentibus lignis aquam salis infundunt. Hispaniæ quadam sui parte e puteis hauriunt, muriam appellant: & illi quidem etiam lignum referre arbitrantur. Quercus optima, utque per se cinere sincero vim salis reddat: alibi Corylus laudatur, et a infuso liquore falso carbo etiam in Salem vertetur. Quicumque ligno confit sal, niger est.*”— And Tacitus says †, “*Inde indulgentia numinum illo in amne illisque silvis salem provenire, non ut alias apud gentes eluvie maris arescente, sed unda super ardentem arborum struem fusa, ex contrariis inter se elementis, igne atque aquis concretum.*”

Immediately after dining with the Baron, who is married to an Irish lady, I left Wieliczka for Cracow. To be within a ride of two or three hours of so celebrated a city, and not to give oneself the trouble of going to see it, would shew very little curiosity; but I only staid there a day and a half, to see the palaces and the beauti-

* Lib. 31. c. 7.

† De Moribus Germanorum, lib. 13. c. 57.

ful churches, the botanic garden which has been but lately made, and the observatory which is in it, the collection of natural history, and the library of the university. Some idea may be given of this last, by informing my readers, that in the medical faculty there are no books so *modern* as Boerhaave, and that the writings of this great man are not *yet* here!!!

The walls of the palace, and of the houses opposite to it, have still the marks of balls from the musquets of former contending factions; and when I was here fresh troubles were again ready to break out, and now Poland is annihilated. The Russian troops, which for some time had been quartered here, and had mounted guard with the Polish, or rather opposite to them (for there were two guards everywhere, one of Russians and another of Poles), left this town the day before my arrival; and the rumour then was, that they were to be replaced by Prussians, against whose entrance some trifling fortifications were constructing. The Austrian troops, from what I heard, would have been more welcome. I hardly ever saw finer troops than the few Polish I saw here; but a disorganized state with internal feuds, and surrounded by the most powerful sovereigns coalesced to destroy it, what can it do? But not a word more on politics, for

———“ My ear is pain'd ;
My soul is sick with ev'ry day's report
Of wrong and outrage with which earth is fill'd.”

Cracow

Cracow swarms with Jews : many of them have little of the Jewish features : the breed probably through *accidents* has been *crossed*. Besides carrying on their usual businesses of usury, receiving stolen goods, selling old clothes, &c. &c. they act as *porters*, *ciceronis*, and *laquais*, and offer their services to travellers, dressed in their long black robes, as they enter the city. In mine I was fortunate. Regular established inns are not even common, I believe, at Cracow. I was conducted by him to a Mrs. Le Bon, where I was remarkably well off in a family way : she dealt in chocolate, &c. and her husband, Mr. Batch, who was one of the town-council, was a very well informed man, and spoke three or four languages : he was really kind, and conducted me about to show me every thing that was worthy of notice.

Friday afternoon, the 6th of September, I set out to return to Pribilini, where I had left my baggage : I soon overtook near a score of empty carts ; the drivers, though they knew they prevented me from passing them, would not give themselves the trouble to make way for me : my servant got down, and by giving each of them a hard thump on the shoulder, made them turn to one side. An old drunken soldier observing their ill-natured obstinacy, probably in hopes of getting a dram, drew his sabre and ran after them as well as an old drunken man could do. The drivers were now all alarmed, each endeavoured to get first out of the supposed danger, and the greatest confusion was the consequence, and two poor men with earthen
ware.

ware were thrown down into a deep dry ditch. I got through them unhurt, but mortified, as I have often been, to see that there are men so debased, that ill treatment is the only means to induce them to act with propriety.

I reached Michlinitz at night, and put up at the Taylors, and the next evening I got to Raaba; but the town or village-house was locked up, nobody was to be found; the village seemed quite deserted, even the custom-house officers did not make their appearance. In this difficulty I addressed myself to the lord of the village, and I was received in a truly hospitable manner: but my worthy host knew neither French nor German; Latin was therefore our only means of communication; and with my good landlady, who took as much care of me as though I had been her son, I could not exchange one word, as she only spoke Polish.—I had already seen enough of the inconveniences of compelled labour, and had felt some of them: here I must feel more. Though lodged in the house of the lord of the village, I was obliged in the morning to wait two hours for horses, and neither my promises nor his threats could make his peasants move a bit the faster. This was Sunday; and as I passed through Dunavitz, which is the largest town in this part of the country, it was quite like a fair: articles of every kind were exposed in the street for sale, as they are with us in fair time. I reached Withof in the evening, and took shelter under the judge's roof; and the next morning I put my portmanteau on a horse, and set out to cross the Alps.

The Carpathian chain appears from hence beautiful, and very different from what it does on the other side. At Kefmark these mountains appeared to be in a cluster rather than in a chain; for the mighty Krivan and its *satellites* lie back, and are not seen from thence. On this side the chain runs in a straight line, and the high peaks, from lying at the back, are not so pre-eminent. I ordered my servant to go to Kostelesko with my baggage, and wait for me there, whilst I took a ramble amongst the most outward rocks of this great wall, for such these mountains appear from hence. An hour after leaving Withof, in the neighbourhood of which I had observed sand-stone strata, I came to a lime-stone rock full of petrifications. It was the *Lapis frumentarius* *; it seemed to form a bed which rose towards the Alps, under an angle of about forty. I observed it in a hill of about a hundred or a hundred and fifty yards high; but whether it entirely formed this hill or not I could not see. To the left of this is some coarse sand-stone, which I rather think belongs to the primitive kind. After this I entered the hills on my left, to ascend to some very bold perpendicular rocks which I had noticed on setting out. The rocks here were primitive lime-stone, but they had in some places a pretty regular perpendicular stratification; but this could not be traced far. After ascending for two or three hours, I found my guide had brought me into a wrong valley; but it was now too late to return, and I continued my course; and when

* *Oryctographia helvetica* Scheutzer. fig. 158.

near

near the top I met again with the *Krumholz*. The lime-stone at last disappeared, and I saw then nothing but granit. The lime-stone evidently lent upon the granit; and on one side, and I think it was on the side facing the great granit Alps, I found a little, in some places lying immediately upon it, in small detached patches like snow before it has melted all away, and not in loose blocks. At the top the granit became schistose, and passed into the *Micaceous Schistus* (*Glimmer schiefer*). But to the east of this mountain, which is called in Polish Czervonnivireh, or the Red Mountain, the lime-stone out-tops the granit: I mean it is higher than the granit, but it is not immediately incumbent upon it. This latter kind of lime-stone, though perfectly of the texture of the former, that is compact, is probably of a different formation. It is apparently stratified, and the strata are nearly horizontal, though rather rising towards Galicia, that is in a contrary direction to the great chain. Had I not seen in other places primitive lime-stone perfectly similar to this, now and then for a few yards assume a stratified appearance, which soon after entirely ceased, so that for miles and scores of miles, not the smallest indication of it could be observed, as I have seen in the lime-stone mountains of Stiria, I should not have hesitated to place this amongst the stratified mountains. A thick mist, the greatest enemy to alpine travellers, soon put an end to my enquiries. The mercury rose in descending from the Red Mountain to Kostelesko, three English inches and five lines; that is, very near three inches and a half.

Though from Kostelesko the finest botanical excursions might be made amongst the very high and beautiful lime-stone mountains which here prevail, which, from the variety of their heights and exposures, must certainly be very rich in alpine plants, I was obliged to leave them and press forward. It was now the 10th of September, and I had seen none of the famous mines of Hungary except Schmölnitz; I hastened back therefore to Pribilini. After leaving Kostelesko I walked about three miles, always amongst the lime-stone mountains: this is their thickness in this part of the chain, and they, as before, afforded me the most beautiful scenery. How far they extend in length to the east and west, that is, how far they accompany the chain of granit, I do not exactly know. I could observe as I came from Galicia, that they seemed to extend a great way to my right and left, constituting the external coating of this side of the Carpathian chain. One of the miners at Kostelesko informed me, that they extended about seven or eight German miles, that is about thirty or forty English. Without going out of my way, I collected on these rocks some beautiful specimens of the *Filago Leontopodium*. Sometimes I saw the primitive sand-stone, but I can say nothing of its situation. After leaving the lime-stone all is granit, or granit approaching to micaceous schistus, *Glimmer schiefer*. This latter I only observed about the top of the mountain which forms the limits between Hungary and Galicia. — It will be remembered, that on the fourth side of this chain I had hitherto found no lime-stone mountains immediately connected with the granit; for the

lime-stone rocks of the *Fleisch-Bank* form rather the beginning of those which run on the north.—I have heard it said, that the country on the north side lies higher than that on the south: I have no grounds for forming such a supposition: it neither appeared to me so, nor did my barometer indicate it.

C H A P.

C H A P. XVIII.

CAVERN OF DEMANOVO—NEUSOHLN AND THE MINES OF HERREN
GRUND—BIOGRAPHICAL SKETCH OF BARON BORN—SCHEM-
NITZ, KREMNITZ, AND KONIGSBERG, AND THEIR MINES.

THE day after my return to Pribilini I paid a visit to Mr. Emerich Pomgratz at Andrasfalva. In a neighbouring limestone rock there is a great cavern called Demanovo, which I intended to have seen, but some trifling travelling mortifications prevented it: and as I was only informed of its being a great cavern, enough of which I had already seen, I was very indifferent about it: but had I then known that this was the cave which Bruchman says is so full of bones, and out of which the skeleton of the *dragon*, which was sent to the Elector of Saxony, was taken, I should certainly soon have levelled all these trifling difficulties, and I should probably have been rewarded with a fine specimen of the skull, not of a dragon, but of the *Ursus maritimus*, or *Ursus spelæus* according to Rosenmuller, for my trouble; for those which are found in the cavern of the Hartze, to which these are likened, are of this kind.

Bruchman in his 77th epistle* says: "Cum iter ulterius in isto

* Epistola itineraria.

3 F 2

subterraneum

subterraneum prosequeremur, magnos acervos sic dictorum ossium draconis, ex quibus & singula antra nomen antrorum Draconum acceperunt, offendamus, quæ vero nihil recedebant ab istis ossibus, in specubus Sylvæ Hercynicæ colligendis, & Unicornu fossile vulgo salutatis. In patriam maxillam, dentes, ungulam & dorsi vertebram, paulo tamen duriores, nec tam molliter calcinatam, ac ossa antrorum Sylvæ Hercynicæ, sed firmiorem & compactiorem, mecum attuli; hæc ossa in tanta hic præstant copia, ut integra plaustra colligenda. Dominus Georgius Bucholz, olim Scholæ Nagy-Pallugyenensis Rect. pronunc verbi divini Evangelic. ad ecclesiam Windicam Minister ac Rector Scholæ Kesmarkiensis, vir sane curiosus, qui multam operam naturæ miracula in regionibus Hungaricis perscrutandi impedit, aliquando integrum Sceletum Draconis, ut vocant, in hoc antro repertum, in Technophylacium Regium Dresdam misit, pro quo gloriosissimus Rex nummum aureum, thaleri magnitudinis, in uno latere Regis augustissimi imaginem, in altero urbem Dresdam exhibentem, laudato Rectori gratiosissime dono dedit."

At a small distance from Demanovo is St. Ivany, where there is an air proceeding from a spring, which is famed for possessing the same properties as that of the *Grotto del Cani*. Opposite to Andrasfalva the Carpathian granit mountains, which gradually diminish in height from the Krivan, begin to get a coating of limestone on this side as they had on the other, and the rocks and hills on the south side of the valley still continue of limestone.

The

The next day I made another stage westward, to Tepla, to pay a visit to Mr. Dvonocovith, to whom this place belongs, whose acquaintance I had made at Pest. Tepla has a very good warm spring, so loaded with calcareous earth, that the very cray-fish found in the rivulets formed by it, are, whilst alive, incrustrated; and we had, using common language, boiled *petrified* cray-fish for dinner: they were very good. All the low rocks here have been formed by the overflowings of this, or similar water. Higher up towards the mountains, some petrifications, partly changed into pyrites, are found in clay. Sand-stone strata are likewise found here. At Tepla I left the Carpathian chain, and the valley in which I had been travelling all the way from Kesmark: indeed this seems here to terminate by the calcareous mountains from the great chain and those of the south side of the valley uniting.

But before I travel further, before I leave my pleasant alpine views, let me pause and answer some questions which I fancy I hear some philanthropist in a country far remote from this, propose to me; and such as I have often asked of others returning from amongst some supposed rude uncultivated people, and which even I have often put to myself, when from an elevated situation I have enjoyed a very distant view; questions such as these: How do men live there? In such a climate, in such a frightful country, and under such laws; do men really live, and is it possible that they are happy?—Fortunately for mankind, they do not feel half the evils for which they are pitied,
and

and each nation in its turn looks with pity or contempt on the other. Though this valley is high, and grows little wheat, and wine and tobacco, the riches of other parts of Hungary, fail; yet it is as well cultivated and as well peopled as any part of Hungary. From the high situations I was often in, I had always the pleasing sight of a well-peopled country below me, and frequently could count at one glance near a score of villages. From a gentleman engaged in drawing up the *conscription* lists, and measuring the county, by order of the Emperor Joseph, I received this account. "In the county of Liptau it was found that there were 57,000 acres of 1300 square fathoms each, and likewise 57,000 souls; and in this estimate the land lying in fallow, which is one-third of the whole, is reckoned." And public instruction, how is that?—Not worse than in other countries: most of the villages have their ministers and their school-masters, and this is more than can be said of some other countries which boast much of their advantages. But education, on which every thing in society depends, how it is neglected every where! What are our principles for conduct but an heterogeneous mass of false religion, false philosophy, and erroneous knowledge of the world, supported by absurd dogmas, and silly maxims and proverbs? MAN, it grieves me to see thee thus neglected, whilst premiums are given for an exuberant growth in goose-berries.

After leaving this valley I travelled southward towards the mines of Lower Hungary. Limestone hills and rocks still accompanied me,
2 and

and often formed beautiful scenery ; but the road, though a post road, was most abominable ; great stones and fragments of rock which had fallen down from the neighbouring heights, had never been removed ; and though I travelled with four horses I was obliged to go *à pas* almost the whole way. This country grows a good deal of hemp, and the stately Beech, which I had not seen since I left Schmölnitz, made here again its appearance. Impeded by the badness of the roads, and delayed by the difficulty of procuring horses, I was compelled to travel by night to make up for the lost time, and I set out from Rivulsam after it was dark : after going through a *pass*, I ascended a very steep and high limestone hill, the descending of which was really dangerous. I stopped and passed the remainder of the night at Altgebirge, where the furnaces of the *Herren-Grund* mines are ; and early in the morning I continued my journey to Neusohln, which is only an hour or two distant. In this morning's ride I saw more limestone, and in some places the primitive sandstone.

Neusohln is well built, and prettily situated by the side of a river, and amongst high hills covered with wood. It was Sunday when I arrived here, and in the evening the market people began to collect together for the next day's market. A finer show of fruit, I think, I never saw. Having paid my respects to the principal men in the mining department, I went the next morning to the mines at Herren-Grund, which are two or three hours distant. They lie in an elevated

elevated situation amongst hills : all the way there I found limestone, but nearer the mine the sand-stone is often seen, and still nearer a kind of *micaceous schistus* (*Glimmer schiefer*), and it is in this, or a variety of it, that the mines are. On enquiring at Neusohn, of those who ought best to have been able to have told me, of what nature the rock here was, I was informed it was granit, and the vein quartz. Granit it certainly is not. Ferber, I think, somewhere calls it *Glimmer schiefer*, but it is very different from a true *Glimmer schiefer*, micaceous schistus ; and Born's *Gneissum virescens Ind. Fossilium* is from hence ; yet this is not a true Gneiss. It is distinct from any well characterised fossil, yet in some places it approaches pretty near to both of these, and likewise to Schistus *. It is probably allied to the *Arenarius griseus*, *Graue Wache* ; but I can by no means agree with Mr. Haidinger, of whom I have the highest opinion, that it is a *Saxum metaliferum* †.

The mines, which are copper, are now worked with loss. Copper

• Gneissum ?

Ex granis parvis & minoribus Quartzi pinguis angulis integris, paucillo Feldspati carnei & Micæ argentæ, ope Steatitæ dilute virescentis conglutinatis.

Gneissum ?

Ex granis parvis & minoribus Quartzi pinguis & Steatitæ dilute virescentis, ope Steatitæ rubro-hepaticæ conglutinatis, textura subschistosa.

Ardesia.

Hepatica lamelloso-schistosa, unctuosio-nitens, fragilis, scriptura rubescens, lamellis Micæ argentæ inspersis.

† System. Eintheil. der Gebirgsarten, p. 44.

is made here likewise by cementation, and a kind of verdegrise or copper ore (*Cuprum æris*). Though this latter is gained by a very simple means, and which has been long used here, I do not know of any thing of the kind existing elsewhere. Water out of the mines, and from the hills, is made to pass through the rubbish brought out of the mines, which, in the very long succession of time that these have been worked, now forms hills, and is received into wooden cisterns which communicate with each other; and in passing from one to the other, deposits a blueish green kind of sediment, which is taken out once a year: the quantity is about thirty hundred weight.

In these mines beautiful rose-coloured stalactites of cobalt vitriol are found. I collected some a foot long with a moveable drop of water within them; some are part rose and part blue colour. Mr. Born in his *Lithophylacium* says, an *Vitriolum Zinci*? Mr. Gmelin calls it *Vitriolum Magnesi*, but adds a point of interrogation. Mr. Born in his late *Catalogue Raisonné* considers it as a vitriol of cobalt, and says that it has been lately analysed by an *élève* of the Academy of Mines of Schemnitz, who extracted cobalt from it. I sent some of it to Mr. Klaproth, who was so kind as to examine it and give me this analysis. "Sixty grains of it dissolved in water, and precipitated with vegetable alkali, gave four grains of a pale light blue precipitate, which turned black on being heated red hot. A part of it melted with microcosmic salt, and likewise with borax, gave with both fluxes a bead of pure sapphire blue. The remainder dissolved in

3 G

diluted

diluted muriatic acid, gave a sympathetic ink, the traces of which on paper appeared of a yellowish green. It is therefore a real cobalt vitriol, only containing a little iron."

The amalgamation, notwithstanding the opposition of the enemies, not of amalgamation, but of Mr. Born, still goes on with vigour; but it is difficult to learn, what are the real advantages of it—for the friends of Mr. Born cry it up as much as his enemies run it down. I have conversed with some of the latter, who, I am sure, though in other respects valuable men, would not cease to decry it though it should convert copper into gold. As the process and the machinery have been so elaborately described, I shall say nothing on it, except that now, tubs something like our barrel churns, but without the internal ribs, &c. and which are moved in the same manner, are substituted to the cylinders, for mixing the prepared ore with the mercury. But I cannot avoid saying a few words *en passant* upon the founder of these works: yet it is not Born's improvements in amalgamation, nor his other discoveries, nor yet his writings, which make him a great public character; it is rather his successful endeavours to introduce a love of science and useful knowledge where he had an opportunity.

The Baron was born at Carlsburg in Transylvania, of a noble family, and came early in life to Vienna, and studied under the Jesuits; who, no doubt, perceiving in him more than common abilities,

ties, and that he would one day be an honour to their order, prevailed on him to enter into it; but of this society he was a member only for about a year and a half. He then left Vienna and went to Prague, where, as it is the custom in Germany, he studied the law. As soon as he had completed his studies, he made a tour through a part of Germany, Holland, the Netherlands, and France; and returning to Prague, he engaged in the studies of natural history, mining, and their connected branches; and in 1770 he was received into the department of the mines and mint at Prague. As we learn from his letters, this year he made a tour, and visited the principal mines of Hungary and Transylvania, and during it kept up a correspondence with the celebrated Ferber, who in 1774 published his letters.—It was in this tour that he so nearly lost his life, and where he was struck with that disease which embittered the rest of his days, and which was only rendered supportable by a strong philosophic mind and active disposition.

It was at Felfo-Banya where he met with this misfortune, as appears from his eighteenth letter to Mr. Ferber. He descended here into a mine, where fire was used to detach the ore, to observe the efficacy of this means, too soon after the fire had been extinguished, and whilst the mine was full of arsenical vapours raised by the heat. "My long silence," says he to his friend Ferber, "is the consequence of an unlucky accident, which had almost cost me my life. I descended the Great Mine to see the manner of applying the fire, and its

effects on the mine, when the fire was hardly extinct, and the mine was still full of smoke." How greatly he suffered in his health by this accident appears from his letter which we mentioned when we spoke of Tokay; where it will be remembered he complained that he could hardly bear the motion of his carriage: upon this misfortune he hastened to Vienna. After this he was appointed at Prague counsellor of the mines. In 1771 he published a small work of the Jesuit Poda, on the machinery used about mines; and the next year his *Litbophylacium Borneanum*. This is the catalogue of his collection of fossils which he afterwards disposed of to the Hon. Mr. Greville. This work drew on him the attention of Mineralogists, and brought him into correspondence with the first men in this line. He was now made a member of the Royal Societies of Stockholm, Sienna and Padua; and in 1774, the same honour was conferred on him by the Royal Society of London.

During his residence in Bohemia, he did not apply himself to the business of his charge alone; but his active disposition induced him to seek for opportunities of extending knowledge, and of being useful to the world.—He took a part in the work entitled *Portraits of the Learned Men and Artists of Bohemia and Moravia* *. He was likewise concerned in the *Acta Literaria Bohemica & Moravia*; and the editor of the latter publicly acknowledges in the preface to it,

* *Abbildungen Böhmischer und Mährischer Gelehrten und Künstler.*

how much Bohemian literature is indebted to him. Prague and Vienna were both without a public cabinet for the use of the students : it was at his instigation that government was induced to form one, and he himself assisted by his contributions and his labours. In 1775 he laid the foundation of a literary society, which published several volumes under the title of *Memoirs of a private Society in Bohemia* *.

His fame reaching the Empress Mary Theresa, in 1776 she called him to Vienna to arrange and describe the Imperial collection: and about two years after, he published the splendid work containing the Conchology : in the execution of this, I believe, he had some assistance. The Empress defrayed the expences for a certain number of copies. On the death of this patron the work was discontinued, her successor, the Emperor Joseph, not favouring the undertaking. He had likewise the honour of instructing the Arch-duchess Maria Anna in natural history, who was partial to this entertaining study ; and he formed and arranged for her a neat museum. In 1779 he was raised to the office of *Actual Counsellor* of the Court-Chamber (*Hof-Kammer*) in the department of the mines and mint. This office detained him constantly in Vienna, and engaged the chief part of his time.

The consequences of his misfortune at Felső-Banya began now to

* Abhandlungen einer Privatgesellschaft in Böhmen.

be felt in the severest manner; he was attacked with the most excruciating colics, which rose to such a degree as to threaten a speedy termination of his life and miseries. In this depth of torment he had recourse to the usual calmer of bodily pain, opium; and a large portion of this being placed by the side of him, which he was ordered only to take in small doses; once brought to desperation through the intensity of his pain, he swallowed it at one draught. This brought on a lethargy, which lasted four-and-twenty hours; but when he awoke he was free of his pains. The disorder now attacked his legs and feet, particularly his right leg, and in this he was lame for the rest of his life; sometimes the lameness was accompanied by pain, sometimes not. But his feet by degrees withered, and he was obliged to sit, or lie, or lean upon a sofa; though sometimes he was so well as to be able to sit upon a stool, but not to move from one room to the other without assistance.

His free and active genius led him to interest himself in all the occurrences of the times, and to take an active part in all the institutions and plans for enlightening and reforming mankind. With these benevolent intentions he formed connections with the Free-Masons, whose views in this part of the world were something more than eating and drinking, as may be conjectured by the laws and regulations made against masonry by the Emperor Joseph. Under Theresa, this order was obliged to keep itself very secret in Austria; but Joseph, on his coming to the throne, tolerated it, and the Baron founded

founded in the Austrian metropolis a lodge called the *True Concord*. This was no card club, or association for eating and drinking, where the leading members were chosen by their capacity for taking in solids and liquids, and where a good song was considered as a first rate qualification ; but a society of learned men, whose lodge was a place of *rendezvous* for the literati of the capital.

No doubt the obstacles these gentlemen would find, to the progress of science and useful knowledge, in the church hierarchy, and in the cabals of courtiers, would draw their attention to political subjects ; and subjects were really discussed here which the church had forbid to be spoken of, and which the government must have wished not to be thought of. At their meetings, dissertations on some subject of History, Ethics, or Moral Philosophy, were read by the members ; and commonly something on the history of ancient and modern mysteries, and secret societies. These were afterwards published in the *Diary for Free-masons**, for the use of the initiated, and not for public sale.—In the winter they met occasionally, and held more public discourses, to which the members of the other lodges were allowed access. As most of the learned of Vienna belonged to this lodge, it was very natural to suppose, that many of the dissertations read here were not quite within the limits of the original plan of the society. It was these dissertations, I believe,

* Journal für Freymaurer.

which

which gave rise to another periodical work, entitled, *Physicalische Arbeiten der einträchtigen Freunde in Wien*, which was continued for some time by the Baron and his brother Mafons. He was likewise active in extirpating superstitions of various kinds which had crept into the other lodges, and equally zealous in giving to these societies such an organization as might render them useful to the public.

The Baron, and many others of his lodge, belonged to the society of the *Illuminated*. This was no dishonour to him: the views of this order, at least at first, seem to have been commendable; they were the improvement of mankind, not the destruction of society. Such institutions are only useful or dangerous, and to be approved of or condemned, according to the state of society; and this was before the French revolution, and in a country less enlightened than almost any other part of Germany. So zealous a friend was he to them, that when the Elector of Bavaria ordered all those in his service to quit this order, he was so displeased that he returned the academy of Munich the diploma they had sent him on their receiving him amongst them, publicly avowed his attachment to the order, and thought it proper to break off all further connection with Bavaria as a member of its literary society. The Free Mafons did not long retain the patronage of their sovereign: the Emperor Joseph soon became jealous of their influence, and put them under such restrictions, and clogged them with such incumbrances, as to amount almost

almost to a prohibition ; and as such they acted, for the society found it necessary to dissolve.

What raised the Baron so high in the public opinion, was his knowledge of mineralogy, and his successful experiments in metallurgy, and principally in the process of amalgamation. The use of quicksilver in extracting the noble metals from their ores, was not a discovery of the Baron's, nor of the century in which he lived ; yet he extended so far its application in metallurgy as to form a brilliant epoch in this most important art. After he had at great expence made many private experiments, and was convinced of the utility of his method, he laid before the Emperor an account of his discovery, who gave orders that a decisive experiment on a large quantity of ore should be made at Schemnitz in Hungary. To see this he invited many of the most celebrated chymists and metallurgists of Europe ; and Ferber, Elhujer, Charpentier, Trebra, Poda, and many more were present, and approved of his invention. On this general approbation he published, by order of the Emperor, his Treatise on the Process of Amalgamation, with a great many engravings of the requisite instruments and machinery. To suppose that his success, whilst it brought him fame and emolument, did not draw upon him the envy and ill will of many of his brother metallurgists and associates in office, would show a great ignorance of what is daily passing in common life. Envy has its share even in maintaining order in society : it is this which tends to keep the great from rising higher, whilst a contrary passion lifts up the little, or prevents them from falling lower.

Though great cabals were raised against him, and against the introduction of his method, yet the advantages of it in many cases were so very evident, that the Emperor ordered it to be used in his Hungarian mines; and, as a recompense for his discovery, gave him for ten years the third part of the savings arising from its application, and four per cent. of this third part for the next twenty years. Even this did not defend him from being still harassed by his enemies; obstacles were still thrown in the way to prevent the introduction and success of his discovery, and to defraud him of his well-earned recompense.

Though he suffered very much in the latter part of his life, yet this did not prevent him from continuing his literary pursuits. In 1790 he published his *Catalogue methodique raisonné* of the collection of fossils of Mifs Raab, which had been chiefly formed by his donations. This work, elegantly printed in two volumes, was well received by the public; and he was writing the *Faßt Leopoldini*, and a mineralogical work, when death put an end to his useful life and to his sufferings.

Notwithstanding the varied advice of his physicians his disease continued: in such a state quacks find easy access to the sick; who is not then ready to seize the nostrum of the bold pretender? One of these gave him a decoction which soon calmed his sufferings, and which he was assured would cure him in a few weeks. He continued the use of this for the last five months of his life: it really diminished

diminished his pains ; but his friends observed that his cheerfulness, which hitherto had not left him, diminished likewise, and that spasms often attacked his upper limbs. On the 21st of July, 1791, he was seized with spasms and cold ; the former soon subsided on friction, but he lost his speech. On the subsequent days he had different attacks till the 28th, when he found himself better, but he was soon attacked again with spasms, and in these he expired.

Born was of a middle size and delicate constitution, dark complexion, black hair, and large black eyebrows. Wit and satire, and a quick comprehension, were marked in his eyes, and his lively and penetrating genius appeared in his countenance. Besides being a good Latin classic, he was master of most European languages of note, and possessed a deal of general information no ways connected with those branches of science required in his profession. He was a great wit and satirist, and a good companion even under the sufferings of bodily pain. His too liberal and unguarded use of satire made him many enemies. In his youthful days he wrote the *Staats Perücke* for the amusement of his friends ; this was afterwards published without his knowledge. But nothing shows more his talent for satire than his *Monachologia*, which he published in 1783, just when the Emperor Joseph was making his reforms in the church : indeed, at any other time such a severe satire on the monks would not have been permitted. They are characterised thus :

3 H 2

Monachus.

Monachus.

Descriptio.—Animal avarum, fœtidum, immundum, siccitofum, iners, inediam potius tolerans quam laborem ;——vivunt e rapina & questu ; mundum sui tantum causa creatum esse prædicant ; coeunt clandestine, nuptias non celebrant, fœtus exponunt ; in propriam speciem sæviunt, & hostem ex insidiis aggrediuntur.

Ufus. Terræ pondus inutile. Fruges consumere nati. And upon the order of Dominicans he says—Eximio olfactu pollet, vinum & hæresin* e longinquo odorat. Esurit semper polyphagus. Juniores fame probantur. Veterani, relegata omni cura & occupatione, gulæ indulgent, cibis succulentis nutriuntur, molliter cubant, tepide quiescunt, somnum protrahunt, & ex Suis diæta curant, ut esca omnis in adipem transeat, lardumque adipiscantur : hinc abdomen prolixum passim præferunt ; senes ventricosi maxime æstimantur. Virginitatis sacræ osores in venerem volgivagam proni ruunt. Generi humano & sanæ rationi infestissima species, in cujus creatione non se jactavit auctor naturæ.

The Archbishop of Vienna complained to the Emperor against this work ; who replied, that it was only the idle and useless part of the spiritual order which was attacked. This was seconded by his *Defensio Physicophili* ; and to this succeeded his *Anatomia Monachi*. He wrote likewise a Satire on Father Hell the astronomer, by publishing

* As being inquisitors.

a long

a long Latin advertisement, full of irony, announcing a book written against the Free-masons, in the name of this learned Jesuit.

It must not be forgotten, that his house was always open to the travelling literati who visited Vienna; and that unprotected genius was always sure to find in him a friend and patron. He carried this perhaps too far, so far as to ruin his estate: probably the expectations of receiving a large income from the amalgamation, made him less attentive to œconomy in his domestic concerns; though I believe his insolvency was chiefly owing to usurers and money-lenders, to whom he was obliged to have recourse to carry on his expensive projects. Through these, though his patrimony was very considerable, he died greatly in debt: this is the more to be lamented, as he left a wife and two daughters.

An hour's walk from Neusohln are the smelting works, where the copper ores, containing silver reduced to the state of *swartz copper*, which is brought from all parts of the kingdom, from the Banat, and even from Transylvania, have the silver extracted by liquation. The lead used for this purpose is chiefly brought from Bleyberg in Carinthia.

I was lodged at Neusohln at the Crayfish inn, where I was much imposed on; but I consoled myself that I had always dined out, and therefore had no great bill; that Prince Bethlin lived in this
house

house when he was called to the crown of Hungary ; and that the bill was written in Latin. The word *cornua* plagued me exceedingly to find out what it meant, and I was obliged to have recourse at last to the author the inn-keeper. It meant, what in Vienna-German is called *kipfle* ; a small kind of roll shaped somewhat like a horn.—Great licences are taken with the Latin language in Hungary ; nothing is more common than to hear words used in speaking Latin which are only known to those who speak the Hungarian, Slavonian, or German languages. *Schmutzidum tempus*, for instance, is the common term used to express bad rainy weather ; *Schmutzig* is a German word, and signifies dirty ; it is therefore as if an Englishman in speaking Latin should say, *dirtydum tempus*.

From the Crayfish, where I staid about two days, I went to Schemnitz, which is only two stages distant : about half way I met again with the Breccia rocks like those about Gran, and nearer to Schemnitz with the *Saxum metalliferum*.—Schemnitz is the principal mining town of Lower Hungary ; it is ill built, and stands upon very uneven ground : its inhabitants amount to about eight thousand, half of which are engaged in the mines. The Mining Academy is very respectable, and many foreigners come here for instruction in this department. The students enjoy great advantages : they go into the mines whenever they please, and there are proper persons to attend them ; and in the chymical laboratory they are allowed to make what experiments they wish ; and the crucibles, retorts, and the chymical agents

agents are given them on asking for; and all this is at the royal expence. There are, besides, proper teachers for all the different branches of a mining education; as geometry, trigonometry, mechanics, hydraulics and hydrostatics, mineralogy, metallurgy, mining, subterranean geometry, mine-law, mine-œconomy, and forestry.

The mines which have been worked for near four hundred years are in the *Saxum metalliferum*. This varies greatly, from a grey indurated clay with whitish spots, to a porphyritic basalt; though in general the base is more of the nature of *Wacke*; and the rock on which a chapel and a mount Calvary have been made, which is but a small distance from Schemnitz, is of true Basalt with small particles of Olivine. The *Saxum metalliferum* does not always contain mica; and this is the case with the balls, and the rock which contains them, mentioned by Mr. Born in his 20th letter. But I have other specimens, in which the hexangular leaves of mica are placed one upon another till they form hexangular columns one-fourth of an inch long. The balls I have just mentioned are certainly very curious; they are only found in one place, I believe, or rather in one gallery: when I was there, the miners had just come to a rock which contained them; and here they were very abundant, so that half a dozen would sometimes be contained in a specimen of the size of one's fist: they are in general about an inch in diameter. Though the balls and the rock are perfectly the same; yet they are often so little connected with it as to fall out; yet sometimes so connected with

with it, as to form only hæmispherical protuberances, the other half being quite united and lost in the rock. They are similar to those in the Imperial Museum at Vienna, only the one is of *Porphyre schiefer*, the other of *Saxum metalliferum*.

In the *Amelia* gallery I observed a very fine white clay. I took some of it out with me : when it appeared pretty dry on the surface, and could be handled without soiling the fingers, it contained so much water that I could almost squeeze it out in drops, and when rubbed between the fingers became quite wet. After I had kept it near a month, though much exposed to the open air, internally it still retained a deal of humidity : when it was perfectly dry it had not half its bulk, cracked of itself into angular fragments, and looked very much like starch, and was so light as almost to swim in water. As it was not known at Schemnitz, I tried it in a wind furnace there, and found it perfectly infusible in the greatest heat we could produce.——As I passed through Vienna I gave some of it to Mr. Fichtel, and in his last work * he has given an account of it ; where he says, that with the blow-pipe it gives a very bright light, unites itself with borax glass, which no clays do, and dissolves without effervescence in aqua-fortis ; and says it is a very pure and true earth of alum. The Blow-pipe is of very great use in mineralogy ; and when Mr. Kirwan's *Tables of the Fusibility of the Simple Earths mixed in*

* Mineral. Aufs. page 170.

various Proportions shall be perfected, it will be of still much greater use, but it will never equal an accurate analysis in the wet way. I sent this clay to the celebrated Mr. Klaproth, and he did me the honour to inform me that it contains 14 per cent. of siliceous earth, but which is so intimately united with the aluminous, that when this latter is dissolved in vitriolic acid, it mixes with it, and only becomes visible when the solution is evaporated for crystallization, by its giving it then the appearance of a clear jelly.

Every thing in the mining departments is conducted upon a great scale; and the reservoirs of water, and the galleries for carrying off the water from the mines, are to be reckoned amongst them.——Mrs. Sharpe has a very fine collection of fossils. Mr. Martin has some good specimens. The Countess Mitrovsky, a beautiful young woman, the lady of the governor, a respectable old gentleman, only admits choice specimens into her cabinet.——One Smith, a hair-dresser, sells fossils, but he asks a ducat for any good specimen. I found here amongst the students not only good mineralogists, but likewise a good botanist and an entomologist.——Near Schemnitz is Eisenbach, where there is a warm bath, with lime-stone rocks in its neighbourhood.

From Schemnitz I went to Kremnitz; but stopped and spent a day at Glashütte, where there is another very good warm bath.

Whilst I was in it, three or four females walked in ; but they were not like the fair one of Gross Wardein, but far gone in the wane ; they had the humanity to keep on their clothes, and so did I.—— There are several baths, some for the common people, and one for cupping and scarifying. As the surgeon who has rented them, either from the town of Schemnitz, or else from the King, is obliged to perform this business for the *Plebs* at about three-pence the dozen, he pays a mere trifle for them. To these baths thirteen good lodging-rooms belong. Here again are lime-stone rocks ; so that all the warm baths I have yet seen in Hungary are found in the neighbourhood of lime-stone. The water of these baths, where it comes out of the rock, which is formed of the sediment deposited by the water, is 128 degrees of Fahrenheit.

As I proceeded towards Kremnitz, I met with some remarkable fossils ; first by the road-side, with a black *Pitch-stone* with particles of Adularia and black hexangular mica*. I ascended the rocks from whence it certainly must have come down, but I found no more of it. These rocks were a kind of porphyry with a yellowish white

* Porphyrius

Ex picco nigro nitenti cultro vix rasili scintillante, granis albidis adulariz ? cum mica nigra hexangulari inspersis.

Basis tubi ferruminatorii ope bis auget volumen, & scoriam albam sine phosphorescentia præbet.

base

base of indurated clay, with small spangles of black hexangular mica *. A little further I came to a genuine volcanic *Tufa*, containing a great quantity of small fragments of Pumice and fragments of the glassy *Pitch-stone* charged with grains of *Adularia*: in this were imbedded some fragments of an aggregate, much like grey granit in appearance, but a quite different thing when accurately examined. The principal part is a white somewhat contorted fibrous mass, in which are grains of *adularia*, black hexangular mica, and a few grains of pellucid quartz tinged of a reddish colour. This is Mr. Fichtel's granitic or Pumex-Zeolite; which, he says, constitutes the greatest part of the Shator Hill. It is Mr. Born's *Granite altéré par le feu volcanique*. What it was originally, I do not know, nor do they.——In the specimen I gave Mr. Fichtel from Erlau, he found that the quartz had changed its granulated shape into an amorphous melted mass; the black glimmer had in part become hexangular, and part had assumed a melted amorphous appearance, whilst the feldspar remained untouched!!! Of this he says, it was granit and is burnt to zeolite. If one asks how is all this——whether it is possible that the more fusible should remain untouched, whilst the infusible is melted——whether by chemical analysis the primitive earths are found in those proportions they should be were they only this or

* Porphyrius

Ex Argilla indurata (Germanorum) albo-flavescente cultro rasili vix scintillante, lamellis micæ nigræ hexangularis inspersis.

that fossil burnt or melted by volcanic fire? the answer is, "*Das Vulcanische Feuer gebet nicht immer einen Weg, sondern schreitet bald gerade und unmittelbar, bald durch Umwege und mittelbar zu ihrem Ziele*"*—*Volcanic fire does not always act in the same manner, but sometimes attains its purpose by direct means, sometimes by indirect.*"

After passing the Heiligen-Creutz I observed, on my left, rocks formed of a congeries of water-worn pebbles, chiefly of the nature of basalt and porphyry, with a few pebbles of milky quartz, united by something of the same nature, but much finer. This latter, when free from the coarse pebbles, where it formed beds of itself, was in some places stratified. Still further I found basalt with grains of *olivine*, and a few indistinct parallelopipeds of *feldspar* or *adularia*; it was in some places divided into indeterminate columns. Further on there is a ravine; here I found some petrified wood; the lowest bed I could observe was a kind of volcanic tufa, or something very similar to it; then above this lay some imperfect coal †, and then further up in the ravine a great mass of semi-petrified wood a yard in diameter. And after this I observed nothing but volcanic tufa all the way to Kremnitzka.

Whilst my horses were feeding here, I examined the hills that lie at

* Mineral. Aufsätze, p. 331.

† Turfa foliata. Syf. Nat.

Fragilis terrea inguinans fuliginosa, texture lamellosæ. Inter lamellas hic & illic inhæret Lithantrax.

the

the back of the village; they are composed of a very cellular porphyry, of reddish petrosilex or jasper mixed with indurated whitish clay*. On account of the hardness of this stone and its cellular texture, it is much used for mill-stones. In a brook that runs through the village I found abundance of filex of different colours in large loose fragments. Towards Kremnitz on the left hand there is a bank almost covered with blocks of whitish petrosilex full of vegetable petrifications. In some places these blocks are so disposed as to induce one to think that once they had formed a stratum which has been broken in pieces. Hungary is very rich in petrified wood, and particularly in that very beautiful kind which I believe is peculiar to this kingdom, the *Holz-Opal* of the Germans, and *Opalus ligneus* of the Syft. Nat. Of this there are pieces of trunks of trees in the Imperial museum. Mr. Haquet of Lemberg in Galicia says, that about forty or fifty years ago a whole tree, ninety-five feet in length, of this kind I think, was found near Moldokö, which is I believe in the district of Pecklin. He says it is related in the manuscript journal of the Abbé Liesganig, who travelled by the order of the Emperor Francis the First, thus:

Buchholz ante nostrum adventum effodit pedes	-	-	13
Frustrum primum petrificatum a nobis fossum	-	-	6
			<hr/>
			19

* Porphyrius rubro alboque variegatus cellulofus, ex petrosilice dilute carneo & argilla indurata cana undulatim dispositis; argilla etiam investit cellularum parietes: vix adsunt adularia & mica.

Frustrum.

			Pedes	-	19
Fruftum fecundum	-	-	-	-	25
Reliquum arboris	-	-	-	-	51
					<hr/>
Longitudo effossæ arboris petrificatæ	-	-	-	-	95
					<hr/>

This tree was lying in a bed of *pumice*.

Kremnitz, where I arrived in the evening, is a small walled town not half so big as Schemnitz. The governor Baron Mitrovsky, with several of his counsellors, were here on a visitation. By invitation of his Excellency, I supped with them. An Englishman, unacquainted with the œconomy of mines on the continent, would be surprised to know with what form and regularity the mining business is here conducted; every thing is put down on paper with the formality of law proceedings, and then considered in councils, &c. The mines of Kremnitz are not noted for the quantity of ore, but rather for the quality; all the ores contain gold and silver: but notwithstanding this, these mines are worked with loss. The richness of the ore makes them very careful in washing it after it is pounded, and the wash-hearths are the most remarkable things here. Water they have in abundance: this, after passing over the hearths, is conducted to reservoirs where it deposits its mud; this is not taken out and washed again, but a stream of water is made to pass through it, which washes it away, and this is then used to wash other hearths. Some think nothing is gained by this over-scrupulous care.

The rich ores from other mines are brought here to have their gold and silver separated from them. I was present at a coppelation process conducted upon a very large scale: the *button* of silver I think must have weighed six or eight hundred weight. After the lead was reduced to litharge, or evaporated, the fire was continued about half an hour: during this the silver boiled up like water; in this state, and the fire not damped, some pale-fulls of warm water by means of a trough were poured upon it: the fire was now damped, and then three men pressed iron bars, something like knives, upon it: this is done, that afterwards it may be more easily cut in pieces. Other chemical processes are likewise carried on *en grand*, as the fabrication of nitrous acid, and the separation of the gold from the silver. The mint is here likewise. I was informed by a friend who visited Kremnitz a few years ago, that in 1788, 110,000 marks of silver, containing about one fortieth or fiftieth part of gold, were here separated from the ore; and in the first half year of 1789, the produce was proportionally greater, 70,000 marks having been separated in this half-year.—Goitres I observed to be very common here.

From Kremnitz I went to Königsberg: the road as far as Heiligen Kreutz is the same by which I came. A difficulty of getting horses obliged me to travel in the night. Till it was very late, as I travelled through the villages, I was amused by large groups of women, who were employed in breaking of flax by the light of fires. As it is generally the case, where people, particularly females, work together,

gether, there was plenty of singing and noise, and the poor benighted traveller afforded them some sport, and an object to exercise their wit upon. When in the morning I reached Konigsberg, I was greatly surprised to find there was no inn here, only dram-shops. I went to the town-house to see whether I could get a room there: this caused a droll mistake. The magistrates were sitting when I was turned in amongst them: on my asking them to lend me a room, they supposed I must be a strolling player begging leave to act in the town-house, and I believe I should have succeeded if I had had such a favour to request: but on hearing I was only a traveller, they told me they could not accommodate me; and some attacked me for a passport, and they were not content with that of the English minister. I promised to show them half a dozen, as soon as I could find a shelter for myself and baggage. The Burgomaster took pity upon me, and received me into his house as a friend: now I was no more plagued about passports, and I found in my host a worthy and hospitable man.

The mines here were formerly very productive; after that, till within a few years, they were worked with loss. I should have staid here only a few hours, but I wished to ascertain the fact mentioned by Mr. Born, of the *Saxum metalliferum* lying immediately upon granit, which he says runs down from the Carpathian mountains. This celebrated man in his 20th letter says, "The valley in which Konigsberg lies, is on one side, towards Schemnitz, surrounded with hills

hills of *saxum metalliferum*, and on the other side, towards the north and east, with granit mountains, which extend from the Carpathians alps hither. In the *Royal Zeche*, which is now worked again, the vein has the granit for the bottom and the *saxum metalliferum* for the top." And in his 21st letter he says, "The Althandler vein (kluft) at Konigsberg runs between granit and the *saxum metalliferum*." And a little further he says, "We have at Konigsberg found the *saxum metalliferum* lying immediately upon granit." And Mr. Haidinger, in his Classification of Mountain-Rocks, quotes Mr. Born. What has led to this opinion is a run of rock of a kind of porphyry or *saxum metalliferum* being found here, very different from the other rock, and of a redder colour. What made me doubt of Mr. Born's accuracy, were some mill-stones that were lying in the street, which I at first look took for granit. This is no doubt the same stone; for the Baron says, "This granit is here called mill-stone, because the feldspar by decomposition is changed into a white powder, which falling out of the cells, forms a good mill-stone, which is transported to distant parts of Hungary." And in his *Lithophylacium* he says, "*Granites ruber ad Uibanyam (Konigsberg) Hung. inf. ad lapides molares utuntur.*"—I went into the mine. I found the *saxum metalliferum* forming both the top and the bottom: but I could not get to that part of the mine where this rock is found, the timbers having fallen down; but the miner who accompanied me assured me it was the same as that where the mill-stones are quarried. I then visited the quarry; it lies just above the town; the rock is much the

same as that at Kremnitzka. It is composed of reddish white indurated clay and red jasper as a base, with grains of pellucid, though more often of redish quartz crystal, decomposed feldspar, parallelopipeds of adularia, and a little black hexangular mica.—Mill-stones are a considerable branch of commerce of this city. Hlinik, which is a town or village in this neighbourhood, is still more famous for mill-stones.

C H A P.

C H A P. XIX.

MONASTERY OF ST. BENEDICT—NEITRA—TYRNAU—PRESBURG
—COACHES AN HUNGARIAN INVENTION.

SUNDAY October the 6th, I left the wall-less inn-less city of Königsberg, and took leave at once of my honest burgo-master, and of the mining country, and began to look towards Presburg. As I did not set out till the afternoon, I only made one stage, to Saint Benedict. The road was so bad, that, though I had four horses, I walked all the way; but as the weather was fine, and the country through which I passed pleasant, time did not appear long.

The monastery, situated on a rock, presents itself like a castle, and commands an extensive view of the country below—*Colles Benedictus amabat*. The rocks which I had an opportunity of seeing in this afternoon's journey, were composed of the breccia so often spoken of; and this I have now found in every country where porphyrous hills have prevailed. From my inn I walked up to the convent. I found the nest, and a very comfortable one, but the birds were flown, or rather kicked out. In some unfortunate public calamity the monks were driven out, and when peace returned, the chapter of Gran seized

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upon

upon it and still keeps it; so I only found a canon, who acts as steward, and the requisite inferior officers. The canon invited me to sup with him, which I did; and the parish priest was of the party: but neither of them spoke either French or German; Latin therefore was the only medium of discourse. After supper a droll ceremony took place, the origin and meaning of which I could not learn: a kind of club or large *spatula* was brought, with which I was to receive three thumps on the back. But as the canon was a *homo quadratus*, I declined the honour; yet submitted on his promising to bestow this mark of attention and kindness with moderation: after this I was handed the *album*.

Since leaving Uihelly and its neighbourhood, I had not once seen the vine: here again the vineyards begin; but this is too elevated a situation for them, and they do not give a generous wine.

Next morning I set off for Neitra. I now left the narrow valleys and the hills, and entered an extensive plain. What lies near St. Benedict belongs to the convent, this seems therefore to be situated like an *aërie*.—At Maroth, where the Cardinal Migazzi has a seat, I was detained a good while for horses; and then in the evening my driver lost his way; and it was ten at night before I arrived at Neitra. And now my troubles were not at an end; a great, a very great, man had just arrived before me, and had occupied all the spare rooms, which, in a large building in Hungary like a mansion house, are often only

only two or three. Though I can bear to see the favourites of fortune figure away in a high style of life without repining, which is more than most democrats can do; yet I must say, that often when they have occupied too much room in an inn, I have wished them at York. Though I will not meddle with so intricate a subject as the *Jus Naturæ*, or natural law, which has led so many of late into dangerous errors; yet I will say, that this great traveller had an undoubted *natural* right to occupy more space than his *brother citizens*. As such, without repining at my own insignificance, I left him in possession of his natural rights, and was obliged to take up with a bed of straw.———This great traveller was a giant between seven and eight feet high, who travelled about to make the most of his greatness.

Neitra is a very considerable town, and agreeably situated upon a rising ground in a fine plain, and half surrounded by a river of the same name. Within the fortress is the episcopal palace. The market was well supplied, and had a fine show of fruit. The rising grounds in the neighbourhood are planted with vines, which yield pretty good wine. The rock on which the town is built is primitive lime-stone. I only remained here till noon, and then travelled through a flat well-cultivated corn country to Freystadt, a trifling market town. The inn was pretty good, and not occupied by a giant; and as the evening was coming on apace, and there was no probability of obtaining horses immediately, I determined to pass the
7 night

night here, and I ordered my horses for break of day. But no driver came to rouse me in the morning; and when I got up to enquire the cause of this neglect, I learned that my horses had come at the appointed time, but that a great man, yet not a giant, some deputy magistrate's deputy, had insisted on having them, and had set off with them, and that I must be pleased to wait a *few hours* till the judge could procure me another set. As they were gone, there was no remedy; but hearing that one of the accomplices was left behind, I boldly walked into his room, and reasoned with him in forcible language upon the injustice of the proceeding; but he addressed me in Latin with a *Domine clarissime generosissime illustrissime spectabilis*, &c. &c. &c. telling me that he was very sorry for it, but that he had nothing to do in the affair, and that I ought to address myself to the gentleman who was just gone.

Having been now plagued twice in four-and-twenty hours with great men; great either in person or in office, I thought it best, to prevent any further annoyance, to put myself under the protection of some other great man: therefore, as soon as I had got my breakfast, I walked up to the *chateau* of Count Erdödy, one of the greatest magnates of the kingdom. This nobleman received me in the most friendly manner, and greatly disapproved of the illiberal treatment I had received; but the count, though lord lieutenant of one of the counties, had nothing to do with the police here, and only could interfere as a private man of great rank and fortune. He invited me to spend the
day

day with him, and conducted me about his grounds, which he is only beginning to put in order, and they are to be *à l'Anglaise*: there is great *capability*. His green-house is a very fine one, and the view from his *chateau* is delightful. The dinner, though there was only the count, his mistress and myself, was very elegant; and every thing was served up in silver by a great retinue of servants.

After dinner I set off for Tyrnau. A little to the right lies the fortress of Leopold-stadt in a plain: it was built by Leopold the Great. The road was so good (and indeed ever since I left St. Benedict, I had no reason to complain), that in three hours I found myself at Tyrnau. This afternoon's ride was likewise through a corn country.

The number of churches, and the towers upon the walls, announce, at a distance, Tyrnau to advantage, but they do not deceive you. Tyrnau may be ranked amongst the first towns of the kingdom; it is regular, well built; the streets are broad; and, on account of the number of its churches and convents, it has often been called the Little Rome. The inhabitants amount to about 7000. Till the reign of Theresa, or her son Joseph, it was the seat of the university which is now at Peste, as the centre of the kingdom. The buildings belonging to it, with others of suppressed institutions of a similar nature, have been converted into a hospital for invalids. The men and officers, which amount to about a thousand, are well lodged.

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The next afternoon I continued my journey to Presburg, which is two stages distant, on a very good road, through a flat corn country. Though it was night, yet being moon-light, I could see two or three gentlemen's seats, or noblemen's chateaux, as I passed along. As most of the inns were shut when I arrived, I was afraid my driver had carried me to a bad one; but in the morning when I walked out, I observed over the door of the inn an inscription, which announced, that on such a day Joseph the Second had honoured it with his presence.

Presburg may be considered as the metropolis of the kingdom; for Bude has been so often, and for so long a time, in the power of the Turks, that this city has generally been the seat of government, and the place where the diets have been held, and the coronation ceremonies performed.—It is well built, and in a fine situation on the banks of the rapid Danube, which is here 250 yards broad. The inhabitants amount to about eight-and-twenty thousand, one fourth of which are Lutherans. These are the most opulent part of the community, and pay nearly one-half of the *contribution*. They have two chapels, one for the German language; and this is very large, well built, and commodious; and another for the Hungarian and Slavonian languages. One half of the city magistrates are chosen from this sect. The Calvinists are too few in number to have a public place of worship. The theatre is good. The casino and other coffee-houses would be admired at Paris or London, and the hapless being called a loungeur may here kill a forenoon or a day, as well as in

In any other great metropolis ; he has all the newspapers, billiards, draughts, and other time-killing apparatus found at Vienna.——Dr. Lumnitzer, author of the *Flora Posoniensis*, lives here, but he seems to have bid adieu to botany.

Jews are very numerous. Whether they are under a particular police, or whether their frequent delinquencies make a particular mode of trial necessary, I don't know ; but at the town-house, when I went to order horses for my departure, I saw one with fetters on his legs, and tears in his eyes. I was informed he had been accused of buying stolen goods from gipsies, knowing them to be stolen ; and, not acknowledging his crime, he had received a copious bastonading, so copious that when he was permitted to sit down, he found it more convenient to stand up : this indicates that it was not a mere tickling he had received, and shews where the punishment had been applied : he now confessed. This seems to be not much unlike being put to the question ; but I hope the fact was first well proved, and that this was only to make the rogue discover his accomplices. Jews are not suffered in any of the mining towns.

I staid here only three or four days, and made but few acquaintance ; yet enough to see that Vienna libertinism had reached Presburg. I wish I could say it had not reached Buda likewise. But how should it be otherwise ? The youth of fashion of both sexes are generally sent to Vienna for their education ; posts of honour and public charges keep many of the nobility here the greatest part of the year,

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and its amusements induce most of the opulent to make it their residence for a time. A gentleman to whom I had a letter of introduction, on a very slight acquaintance, invited me to come and drink coffee with him, and promised to treat me with the sight of a beautiful young lady whom he had seduced the day before. As libertines often boast of crimes they have not committed, I hoped it would have been so here, and at the appointed hour I went. Soon after a respectable old gentleman and lady entered the room, and a charming girl, their daughter, accompanied them. Her juvenile appearance, had not her full bosom indicated the reverse, would have led me to think that Love had not yet told her of the charms of his voluptuous banquet; that Nature had not yet invited her; and that Pleasure, awed by her youth, had not yet dared to offer her bewitching hand to lead her to it; I should have thought she was yet free from temptation, and incapable of falling; but alas! it was otherwise. As I looked at her, her cheeks said, we have cherished unhallowed kisses and are ashamed; her eyes, that they had suffered themselves to be closed in the sweet transports of their lovely mistress; and the fair bosom heaved, and told it had scorned the bounds modesty has prescribed, and had invited the amorous embrace: all bespoke her fall, all declared that she had yielded to the alluring voice of seduction, and to the persuasive language of her own desires.

As afterwards we walked through a room, she cast an expressive look at the sofa on which the first familiarities had taken place; where desire, almost unfelt, had been raised into an ardent passion; and
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from whence, now welcoming Pleasure's enchanting invitation, she had been conducted to the altar of Love, there, in exchange for a few short-lived transports, to offer up her innocence, her peace, perhaps her life. But how her lovely bosom heaved as we passed this so late couch of pleasure! How busy were then her thoughts! In the course of the afternoon, sighs and smiles, composed and wandering looks rapidly succeeded each other; and her troubled soul seemed to pass quickly from the recollection of past pleasures, to the anticipation of future sufferings; and from thoughts of repentance to the desire of repetition.—Ah! what misery may not this—this one slip, the tribute of sensibility and youthful nature to Love, have caused! I shudder when I think of it.

What, if from this single embrace prolific Nature, always delighting in the warmth of passion, should have destined my lovely girl to be a — mother? How, on the enlargement of her slender waist, pharisees will have scorned her, and prudes have sneered at her! Will she not have been slighted by our sex, and shunned by her own; and thus have been excluded from society as a disgrace to human nature? Whither will she fly for a protector, when the mother who bore her will not own her, and when the father who begot her shuts the door against her, and those whom she has called by the sacred name of friend, for virtue's sake, will not see her? The cruel spoiler of her innocence and peace triumphs in her ruin, or has forgotten her; to beg she is ashamed, and the hand of charity to such is doubly cold.

Unfortunate, but not debased, she scorns life on the term of prostitution, the last resource of fallen beauty ! And what is now existence ? a burthen only to those of a generous mind. LIFE, light airy spirit, thou reluctantly quittest the happy breast—through innumerable long revolving periods, thou art willing to be its guest, but readily quittest that where misery dwells. Prisons cannot detain thee, nor can chains bind thee. Driven away against thy will thou mayest be, but never held without thy consent ; consolation indeed sweet, but to misery alone. Life will no longer bear the insulting reproaches of a malicious world, it's already on the wing, it longs to be gone, and carelessly flutters over the dreary dominions of the appalling king of terrors, which now have lost their terrific look, and are become the tranquil land of oblivion to misfortune. Now all the ties to mortality are broken, the love of life is gone, the fear of death is over ; and as the clouds of adversity blacken, it spreads its light wings, and takes the wondrous flight, and quits this hard-hearted grovelling world. At the sad news we startle. Some few drop a tear ; whilst the righteous exclaim, Behold the end of the wicked, and the just judgment of an offended Deity!—A DEITY!!—One then that I abhor——Ah! profane not the sacred name of nature's Lord by such suggestions, nor render odious this pleasing sound. Now, light flippant libertine, what hast thou to boast of but—MURDER ? and ye, spotless prudes, who could not be tainted by the company of such a *wretch*, ye are his accomplices.

I staid to see my fallen fair out of the house of seduction. At every
look

look I took at her, and at every word I spoke to her, she seemed to say, And do YOU know what I have been at? Are the prints of my seducer's lips, then, still on my cheeks and bosom? and is the soft languor of love still in my eyes, and all the signs of tumultuous joy now glowing in my countenance?—Yes, sweet girl! I knew of thy weakness, despised thee not, but pitied and forgave thee; and mayest thou never more expose thyself to the sport of fortune, and an ill-natured world; but now, having given thy hand to a lover warm and youthful as thyself, be enjoying in his arms transports unfelt even in thy maiden loves!

Kittfee, a small town, which is supposed by some good antiquarians to have given its name to that vehicle called a coach, as being the place where it was first fabricated, is only two or three miles from hence. Johnson in his great Dictionary says, that the coach is an Hungarian invention; and the words Kittfee and Coach to an antiquarian may be strikingly alike, though to no one else. I think it is Fisher who, in proving the common origin of the Hungarians and the Finlanders, exclaims, "*Quantula est ea differentia nominum Ugur et Vogul.*"

To get rid of this piece of archaiology, I will give the reader a translation of a short paper printed in the Hungarian Magazine, and written by D. Cornides. "That vehicle," says he, "which in German is called a Kutsche (coach), and which, on account of its great

great convenience, is introduced into all the countries of Europe, has, as it is well known, in other European languages nearly the same name. This would lead one to conjecture with probability, that the vehicle, and likewise its name, originated, and was in use with one people only, from whence the other nations took the invention and the name.—An infinity of examples of this kind support the justness of my conjecture: thus for example, the French word *minuet* is retained in all other languages, as this dance was invented in France, from whence by degrees it passed into other countries. Such a generally received word is the word *Kutsche*; those, therefore, who have attempted to give the origin of this word, ought, I think, to have examined first in what country coaches were first made. As long as this question remains undetermined, all etymological derivations of the word *Kutsche* rest upon very uncertain conjectures, as it has been observed by the celebrated Swedish Professor, John Ihre, in his *Glossario Suiogothico*, tom. I. Col. 1178, printed at Upsal in 1760. These are his words: ‘*Kusk*, auriga. *Proprie ipsum carpentum videtur denotare.* Gall. *Cocher*. Hisp. id. Ital. *Cocchio*, Angl. *Coach*, Hung. *Cotczy*. Belg. *Goetse*, Germ. *Kutsche*: qui vero ejusmodi vehicula dirigit, Anglis *Coachman* dicitur, quod brevius aliæ linguæ reddidere, ut Galli *Cocher*, nos *Kusk*, dicentes. Cujus vero originis sit, dictu difficile est, quum ignoremus, cujus populi inventum sint camerata hæc vehicula. Latinum facit Menagius, & quidem longo circuitu a *vehiculum* formatum; Junius paulo minus operose Græcum, ab οχηον, *veho*; Wachterus Germanicum

a *kutten*, tegere ; Lye, Belgicum a *koefsin* cubere, ut proprie lecticam significet. Prætereo alias aliorum conjecturas.’

“ I venture to prove by evident testimonies, that this carriage originated in Hungary, and that it has received the name Kutsche from the place of its invention, or nativity, if I may so express myself, and that it has been propagated to other nations. I will bring forward my sureties. The first is John Lifthius, Bishop of Wesprim, and Chancellor to the Court, one of the most able men of his time ; he had written with his own hand several short but very useful remarks on the margin of the Decades of Bonfinius, which he had received from the celebrated John Sambucus, as a present, on the tenth of June 1568, which P. Pray, so justly famed on account of his historical knowledge of his country, to whom it now belongs, was so kind as to communicate to me. Among the remarks of Lifthius upon some of the passages of Bonfinius, the following appear to me particularly remarkable. Bonfin. decad. 4. lib. 1. relates that the King, Matthias Corvinus, often used to have for his amusement combats on horseback and in carriages, and makes use of the expression : ‘ Aurigatione assidua usus est, &c.’ This expression of Bonfinius gave Lifthius the occasion to subjoin this marginal interpretation : ‘ Bizony Kochis nem v’olt. Romanus enim ille mos jam olim tum desierat, nisi forte dicere velit, curru Kochy (it is pronounced Kotsi) vectum, cujus Rex primus inventor fuit.’ The second witness I have to produce in support of my assertion, is Stephan. Broderethus, who, in the description of the battle:

battle lost at Mohatsch in 1526, relates the following of Paul Tomory, arch-bishop of Kolotscha. ‘Ubi exploratum habuit Turcæ in Hungariam adventum, non contentus id per literas et nuncios sæpe antea regi significasse, consensu raptim levibus curribus, quos nos a loco Kokze appellamus, vigesima Martii, ad regem, tunc Vissegradi agentem, repente advolat, &c.’ The third that I ought not to fail producing as surety for me, is Sigismund, Baron of Herberstein, the Imperial Ambassador at the Court of the King of Hungary Louis the II. in his much esteemed *Commentario de Rebus Moscoviticis*, Basil 1571, fol. page 145, where accidentally mentioning some post stations in Hungary, we find a passage which merits our attention. It is this: ‘Quarta (respiratio equorum et permutatio) sex infra Jaurinum miliaribus, in pago Cotzi, a quo et vectores currus nomen acceperunt, Cotzique adhuc promiscue appellantur.’ — Further, Frederick Nostleder, a writer of the sixteenth century, seems to acknowledge likewise the Hungarian origin of coaches, when, in his work upon the German war, page 612, he expresses himself thus: ‘The Emperor Charles the V. laid himself to sleep in an Hungarian coach (*Gutschwagen*), as he had the gout.’ All these testimonies hitherto produced, shew the justness of my assertion beyond all doubt; I shall not therefore extend my proofs further, only add a few words on the immoderate use our countrymen made of this national invention at first.

“As the coach, even in Hungary, in the middle of the sixteenth century,

century was somewhat scarce, it is no wonder if every Hungarian wished to travel in them, and even to use them in the field; and that it was necessary to put a stop to this abuse by a law of the land. For this purpose we find, in the decree of 1523, art. 20. a law which runs thus: 'Et quod nobiles unius sessionis per singula capita pariter insurgere et advenire teneantur, et non in Kotfi, prout *plerique solent*, sed exercituantium more, vel equites vel pedites, ut pugnare possint, venire sint obligati.' It is likewise worth while, on quoting this act, to add this circumstance as a further support of the opinion of the coach being an Hungarian invention; that at first we knew not how to name this carriage in Latin, which was unknown to the Greeks and Romans, but by simply calling it, as in the Hungarian, Kotfi, or sometimes Currum Kotfi. I refer, besides to the lately mentioned act, to several other original papers of this country of those times. Here, for example, belong some passages of the manuscript list of the royal expenditure for the year 1526, of which the inestimable Father Pray, in the *Annal. Reg. Hung. P. V. p. 101.* has communicated to us a valuable fragment, where it is said in the note *q*, 'Pro solutione Kotfy dati sunt in cupreis flor. 30;' and in the note *r*, 'Pro expensis et solutione Kotfy ad Viennam, et ex quo Viennæ tandem equum emere debet, dati sunt in cupreis floreni 75;' and again in the note *t*, 'Pro solutione trium Currum Kotfy, &c.' This is enough. Only a short remark on the word Kotfi.

"Since from all the fore-mentioned clear testimonies it is sufficiently

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evident,

evident, that the honour of the invention is due to our country, Hungary, and that even the word Kutsche owes its origin to a place of this same name in Hungary, we may take it amiss from so patriotic a man as Joseph Benkö, that he should assert in his *Transylvania*, P. I. p. 384, that the Hungarian word Kotsi is derived from the German word Kutsche; since, as we have already seen, the thing is quite the reverse. Even a learned German, a contemporary of King Mathias Corvinus, John Cuspinianus, properly called Spießhammer, physician and counsellor to the Emperor Maximilian the First; and who was, as he says himself, within the space of five years sent twenty-four times to Hungary as ambassador, plainly says, in his *Diarium de Congressu Maximiliani I. Cæs. cum Vladislao, Ludovico, & Sigismundo, Hungariæ, Bohemiæ, ac Poloniæ Regibus*, in Matt. Bel's *Adparatus ad Hist. Hung. dec. i. Monum. vi. p. 292*, that Kottschí is a native Hungarian word. For when he gives us a description of the solemn entry of the Emperor Maximilian the First, and the three before-mentioned kings, into Vienna, of which ceremony he himself was an eye-witness, and even concerned in, he says, as something characteristic of the Hungarian pomp: ‘*Vehebantur multi [Hungarorum] in curribus illis velocibus, quibus nomen est patria lingua Kottschí.*’ I must still clear one difficulty out of the way. It is concerning the place where they were first invented, and which is called by Broderith, Kotcze; but by the Baron of Herberstein, Cotzi.

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Where is this place? it may be asked. In what country are we to look for it? Broderith, it may be said, does not give us his opinion about it, and now nobody knows of a village which, according to the account of the Baron of Herberstein, lay about six miles from Raab and was called Cotzi. However plausible this objection may be, it is very easy to answer it; for, to judge according to the situation of Cotzi as determined by the Baron, Cotzi can be no other than the market-town Kitsee, in the county of Wieselburg: and the small difference of the two names Kotzi and Kitsee ought not to disturb us; for it is highly probable that formerly it was not written and pronounced as it is now, Kitsee, but Kotsee. At least in 1515 Cuspinianus in his *Diarium* called this place Kotsee, as may be seen in Bel, p. 288. where it is said, ‘Qui [Maximiliani I. Caes. Oratores, in quibus et ipse Cuspinianus erat] xiv. die Julii invenerunt Regem Hungariae Uladislaum, cum liberis suis, in quodam castro Kottsee cui adjacet villa prope Danubium.’ And Mat. Bel adds the following note (g) on the word Kottsee, ‘Vetus & genuina apud Germanos Köptfinii, Mosonienſium oppidi, adpellatio, a cœnoſo ſitu, quem Danubii olim deluvia talem faciebant, deducta: jam Kittzee vocant. Vide operis noſtri tom. 5. in Hiſt. Comitatus Moſonienſis, parte Spe. memb. 1. ſect. 1. num. 4.’ Likewise Gerhardus de Reo, Librarian in Inſpruck to the Arch-Duke, a writer of the 16th century, mentions this market-town under the name Coche, which, according to the French, and at that time the Hungarian, manner of reading, muſt be pronounced like Kotschee. I will likewise give the

words of this historian: 'Statuit deinde [Comes Cilleiensis] secundo experiri fortunam, & in oppido Coche, quod in Hungariæ finibus situm est, cum suis profectus, &c.' And that this market town must have been called Kotsche in the time of Math. Corvinus, appears from his contemporary Bonfinius, who in dec. iii. lib. 7. writes it likewise Coche: 'Qui,' he says, 'in Ungariæ finibus, ad Coche oppidum, cum gubernatore convenient, &c.' and with this I conclude my proof

M. DAN. CORNIDES."

Time had moved rapidly on, and had reached the middle of October. I had yet other countries to see; I must therefore leave Presburg, and Hungary likewise. I crossed the Danube, on leaving this city, on a *pont volant* like that at Komorn, and, after travelling a few miles on a very magnificent road, I reached Wolfsthal, the confines of Austria. Here I bid farewell to my favourite Hungary; and though the country before me, on the banks of the Danube, was remarkably pleasant, and afforded the most beautiful prospects, I could not leave that behind without regret; and I frequently looked back to thank its generous inhabitants for the friendly reception they had given me, and to wish them every kind of public prosperity. The Hungarians are a noble race of men; and, of the variety of nations amongst which I have travelled, the one I esteem the most. This small tribute of praise I owe them, and I pay it with pleasure.

APPEN-

A P P E N D I X.

E N T O M O L O G I A.

1000

ENTOMOLOGIA.

- | | | |
|----|------------------------------|---|
| 1 | LUCANUS Cervus. | |
| 2 | | Parva varietas. In copula inveni. |
| 2* | caraboides. | Var. violaceus. |
| 3 | LETHRUS cephalotes. | |
| 5 | SCARABÆUS quadridens. | "Habitat in India orientali," etiam in Europa. |
| 6* | scybalarius. | |
| 4* | finetarius. | |
| 5* | fordidus. | |
| 7* | luridus. | |
| 7 | Pecari? | Scutellatus muticus ater, thorace lævifimo nitidissimo. Elytris punctatofriatis rufis, <i>macula communi dorsali nigra</i> , pedibus rufis. Sutura in exemplaribus propriis minime nigra est. |
| 12 | lunaris. | |
| 10 | Lemur. | |
| 9 | Taurus. | |
| 13 | sacer. | |
| 8 | Schæfferi. | |
| 11 | pilularius. | |
| 4 | Schreberi. | |
| 6 | flavipes. | Exscutellatus muticus fuscus, thoracis marginibus punctis duobus impressis, elytris pedibusque flavescentibus. |
| 8* | ovatus. | |
| 14 | HISTER lævus | Faunæ Etruscæ Rosfi. |

14 **HISTER**

- 15 *HISTER* bimaculatus. Elytris macula media rubra, nec macula postica rubra.
- 16 4-maculatus. In exemplaribus meis, maculae duae confluentes maculam semilunarem formant.
- 20 *SPHÆRIDIMUM* scaraboides.
- 21 fimetarium.
- 23 *BYRRHUS* pilula.
- 24 fasciatus. Herbst's Archiv.
- 25 varius.
- 26 *OPATRUM* sabulosum.
- 27 crenatum.
- 29½ *HELOPS* lanipes. *Æneo-ater*, elytris striatis acuminatis.
- 30 *CARABUS* coriaceus.
- 32 purpurescens.
- 31 cyaneus.
- 33 granulatus.
- 40 leucophthalmus.
- 34 sabulosus.
- 35 picicornis.
- 36 cephalotes.
- 41 metallicus.
- 42 holosericeus.
- 38 aterrimus.
- 44 6-punctatus.
- 39 vestitus.
- 37 cyanocephalus.
- 43 prasinus. Et plurimi alii, huc usque non investigati.
- 48 *CICINDELA* campestris.
- 49 hybrida.
- 50 littoralis.
- 51 sinuata. Schneideri, in Fauna Insectorum Germaniæ.
- 52 germanica.

53 CLERUS mutillarius.

In exemplaribus meis, fascia alba apicibus elytrorum deest.

53* formicarius.

55 NOTOXUS monoceros.

56 CANTHARIS lividus.

57 MALACHIUS ruficollis.

Nigro-cærulescens, thorace elytrorumque apicibus fanguineis.

58 pulicarius.

Æneus, thoracis margine: elytrorum truncatorum apicibus: antennisque rubris.

Si differentia specifica inter marginellum et pulicarium, a colore viride æneo, aut nigro pendeat. Margineello referendus est.

59 MALACHIUS equestris.

60 DERMESTES murinus.

61 tessellatus.

62 pellio.

64 PTINUS fur.

65 Scotias.

67 SYLPHA grossa.

67* rugosa.

68, lunata.

68* opaca.

Livida Herbstii.

Testa nigra est, sed pubescentia ferruginea tecta.

80 COCCINELLA bipunctata.

81 3-punctata.

82 7-punctata.

83 11-maculata.

84 13-punctata.

89 14-maculata.

89* ocellata.

87 20-punctata.

Variat. coleoptris rubris & luteis.

In exemplaribus meis caput non nigrum ut in Entomol. System. sed flavum, oculis nigris.

3 N

85 Cocci-

- 85 COCCINELLA 24-punctata ?
 75 impustulata. In Jablonsky & Herbst. Insect. Tab. lvi. No. 15. Coleoptris nigris, capite thorace pedibusque anterioribus nigro alboque variegatis.
- 73 humeralis. Nova Species, Pl. II. fig. 1.
 Coleoptris nigris immaculatis, thorace nigro maculis duabus marginalibus flavis.
 Caput nigrum.
 Thorax niger, maculis duabus marginalibus flavis vel flavo-rubris.
 Elytra nigra, immaculata, convexa.
 Abdomen nigrum, ano flavo.
 Pedes flavi.
 Animal subrotundum convexum longitudine lineæ sequentis —
- 74 An Nov. Spec ? Coleoptris nigris, maculis duabus rubris, thorace nigro utrinque macula marginali rubra.
 Caput nigrum, antennæ & palpi rufi.
 Thorax niger nitidus macula utrinque marginali rubra.
 Elytra nigra nitida, macula postica rubra.
 Abdomen nigrum.
 Pedes, femora nigra; tibiæ & tarfi intus flavescentes.
 Animal parvum, longitudine —
 Affinis C. campestri Fuefsly Archiv. Insect. Gesch. at duplo fere minor; & tibiæ & tarfi pedum omnium, non tantum pedum anteriorum, flavescent.
- 76 6-pustulata.
 77
 78 pustulata.
- Var. prec. Macula rubra humeralis ad futuram fere accedit, & punctum nigrum includit.

- 79 COCCINELLA 14-pustulata. Puncta in exemplaribus meis non alba
sed lutea sunt.
- 90 CASSIDA affinis ?
- 91 ferruginea.
- 93 murræa.
- 94 viridis.
- 95 margaritacea.
- 96 CHRYSOMELA tenebricosa.
- 110 nigrita Nonnullorum : Gottingensis aliorum.
Statura Chrysomelæ limbatae, &
longitudine ———
Tota violacea est ; subtus nitidissi-
ma, supra obscurior & parum rufes-
cens. Tarsi & palpi ferruginei. An-
tennæ violacæ pilis ferrugineis, cum
basi ferruginea. Alatus est.
- 97 Adonidis.
- 102 10-punctata. Var. punctis tribus posticis confluenti-
bus, pedibus nigris.
- 103 Var. Thorace nigro, femoribus nigris,
tibiis pallidis.
- 104 Var. pedibus omnino rufis.
- 101 6-punctata ?
- 112 pallida.
- 113 An precedentis varietas ? Minor est, &
ferruginea, abdomine nigro.
- 109 cerealis.
- 100 fastuosa.
- 99 gloriosa.
- 106 limbata.
- 105 sanguinolenta.
- 107 marginata.
- 108 aucta ? Abdomine pedibusque nigro-violaceis,
antennis basi ferrugineis.
- 3 N 2 98 CHRYSO-

98 CHRYSOMELA sacra.

Ovata, supra rufa, capite postice puncto, thorace macula magna centrali punctisque duobus lateralibus, elytrisque futuris, nigris. Abdomine cum pedibus, antennis, oculis & ore nigris.

114

Sophiæ.

Var. viridis.

162 CRIOCERIS merdigera.

160 12-punctata.

159 14-punctata.

In nonnullis exemplaribus puncta nigra in tæniis transversas confluent.

158 melanopa.

161 Asparagi.

117 GALERUCA Alni.

116 coccinea.

118 Bovistæ.

119

Var. nigro-cærulea.

115 20-punctata.

Nec thoracis margines, nec elytra alba sunt, lutea potius.

121 Nemorum.

130 CISTELA cinerea.

Unicolor est & grisea.

127 lepturoides.

128 sulphurea.

129 rufa.

Nova Species? Pl. II. fig. 3.

Caput parvum ferrugineum. Oculi nigri. Antennæ ferrugineæ longitudine dimidii corporis.

Thorax ferrugineus, antice rotundatus, postice truncatus.

Elytra ferruginea lævia (non striata) vix pubescentia.

Abdomen ferrugineum, anum vix fuscescens, longitudine —.

131 CRYPTO-

131 **CRYPTOCEPHALUS longipes.**

132

Precedentis forsan varietas. Minor est, thorace glabro, elytrorum punctis posticis nigris confluentibus.

135

6-maculatis?

133

4-punctatus.

134

3-dentatus.

134*

———— ? Dimidia precedentis magnitudine.

134°

———— ? Precedentis magnitudine, puncta nigra humeralia defunt, basis antennarum et os flavescunt.

136

bipunctatus.

137

cordiger.

153

bothnicus? Caput flavum, margine postico, oculisque nigris, antennæ flavæ apicem versus fuscescentes.

Thorax flavus, maculis duabus magnis oblongis nigris.

Elytra nigra subpunctato striata, marginibus basin versus flavis & futura ad scutellum puncto flavo notata.

Abdomen nigrum.

Pedes lutei, femoribus duorum posteriorum parium macula nigra notatis.

156

Coryli.

139

cyaneus.

140

bucephalus. Cyaneus, ore, basi antennarum, thoracis marginibus, pedibusque rubris.

130

fericeus.

151*

flavipes.

152

Varietas forsan precedentis. Margines thoracis anterior & laterales luteæ sunt.

150

Hubneri.

141

Moræi. Pedes albo variegati, antennarum basis pallida, caput albo punctatum.

141* **CRYPTO-**

- 141* *CRYPTOCEPHALUS* Moræi. Precedentis varietas? Exceptis maculis elytrorum totus niger.
- 146 8-guttatus.
- 146* Precedentis varietas. Capite & thorace nigris.
- 151 flavicollis. Nov. Spec. Pl. XI. fig. 5 & 6.
 Caput nigrum, antennæ nigræ basi luteæ.
 Thorax fulvus maculis duabus dorsalibus, puncto unico vel punctis duobus lateralibus, interdumque punctis duobus minoribus posticis nigris.
 Elytra punctata luteo-testacea; macula oblonga humerali, puncto prope scutellum, puncto unico vel punctis duobus versus apicem, (quorum interius majus est) scutellum futuraque nigra.
 Abdomen & pedes nigri.
 Statura & magnitudine *Crypt. bipustulatus*.
- 147 bipustulatus.
- 148 bifasciatus. Musei Dom. Helwig. Brunswigi, Pl. XI. fig. 4.
 Char. Spec. Niger elytris punctato-striatis luteo bimaculatus.
 Caput nigrum, macula cruciformi lutea. Oculi nigri.
 Antennæ fere longitudine corporis, ad basin luteæ, versus apicem fuscescentes.
 Thorax niger nitidus, margine antico & lateralibus luteis.
 Elytra punctato-striata nigra, maculis duabus luteis, anteriore majore subquadrata, posteriore ad apicem subrotunda.
 Abdomen nigrum.
 Pedes albi & nigri variegati.
 Statura *Crypt. 8-guttatus* cui affinis.
 Longitudine — etiam —
- 149 *CRYPTO-*

149 *CRYPTOCEPHALUS* Scopolinus. In exemplare meo, pedes non nigri sunt potius rufi, accuratius tamen primum par rufum, femora reliquorum nigro maculata.

154 Minuti varietas forsan. Thorace fulvo, elytris luteis puncto fusco humerali.

155 Precedenti affinis. Caput, thorax, elytra striata, & pedes lutei; oculi & abdomen nigri.

163 *HISPA* atra.

167 *LYTTA* vesicatoria.

168 fyriaca.

Color elytrorum variat, violaceus viridecæruleus & viridis.

169 erythrocephala.

Caput rufum, linea occipitali nigra. Oculi nigri.

Antennæ nigrae dimidii corporis longitudine basi rufescente, os & palpi nigri.

Thorax niger cylindricus canaliculatus.

Elytra atra opaca apicibus rotundatis marginibus pubescentia albis.

Abdomen nigrum.

Pedes nigri, anteriores pilis canescentibus.

170 *MORDELLA* perlata.

Sulzeri in Tabula vii. fig. 14. et 12-punctata. Faunæ Etruscæ Tab. iv. fig. 4.

Elytra nigra sunt, maculis punctisque e pilis albis.

164 *PYROCHROA* coccinea.

165 *LYCUS* fanguineus.

In exemplare meo, elytra non glabra ut in Entom. System. nec "costis 6-longitudinaliter elevatis, inter singulas quasi rete e maculis duplici ordine, rugis minus elevatis," ut in Fauna Suecica, sed subtilissime & indistincte striata, longitudine —

166 *LYCUS*

166 *LYCUS*. Nov. Spec.?*Niger elytris reticulato-striatis sanguineis.*

Caput & antennæ nigræ.

Thorax totus niger rugosus.

*Elytra sanguinea costis 6-longitudinaliter elevatis inter singulas quasi rete e rugis minus elevatis, apicibus rotundatis, longitudine —**A L. sanguineo & minuto quos ante oculos habeo diversus.*171 *TRICHIUS* Eremita.

172 nobilis.

173 fasciata.

174 hemipterus.

175 *CETONIA* fastuosa.

176 marmorata.

177 viridis.

178 hirta.

179 stictica.

180 *MELOLONTHA* Fullo

181

182 pilosa.

183 solstitialis.

184 æquinoctialis.

186 brunnea.

196 Frishii.

Var. atra.

Var. castanea.

*Caput viride-æneum, antennarum pedunculi ferruginei. Capitula nigra.**Thorax viride-æneus, margines laterales pallidi.**Elytra testacea viride-nitentia.**Abdomen & pedes nigro-ænei.*

198 vitis.

187 horticola.

In exemplare meo caput & thorax virides non cærulei sunt.

189 agricola?

Elytra testacea limbo & macula prope scutellum nigris.

190 MELCOLONTHA.

An precedentis varietas? Est Crucifer Jablonsky.

Elytra dilute testacea, macula magna nigra communi cruciformi.

189

fruticolæ varietas?

Statura & magnitudine precedentis, sed elytra omnino castanea.

191

fruticolæ varietas?

Statura et magnitudine precedentis, sed elytra nigro-spadicea.

193

ruricola.

194

farinosa.

195

Scarabæus argenteus Scopoli.

200 BUPRESTIS berolinienfis.

Non elytris viridi nigroque variis, potius viridi æneoque variis.

201

rutilans.

Elytris præmorsis, striatis viridi auratis nigro punctatis, limbo aureo.

202

mariana.

203

9-maculata.

204

chrysofigma.

Elytra in exemplaribus meis stricte non maculis duabus aureis impressis, rectius punctis tribus, &c. Est enim tertium adhuc punctum prope scutellum, at minus conspicuum.

205

decastigma.

Numerus punctorum in exemplaribus meis variat: puncta autem circulum formantia semper 8 sunt.

206

lugubris:

207

tenebrionis.

208

Rubi.

209

4-punctata.

209

manca.

211

pygmæa.

Pl. XI. fig. 7.

218

minuta.

Ovata, nigro-ænea, thoracis basi sinuata, elytris integris, vittis canis undulatis transversis.

212

viridis.

- 213 BUPRESTIS læta.
 214 Salicis.
 215 formosa.

Nov. Spec. Pl. XI. fig. 8.

Caput viride, foveola frontali impressa. Oculi testacei. Antennæ æneæ.

Thorax linea mediana cæruleo-viridi, linea utrinque lata nigra foveola impressa, marginibus viridibus.

Elytra integra marginata viridia, striga communi futurali cæruleo-viridi, apicibus punctatis.

Abdomen viridi-æneum.

Pedes æneo-virides.

Tota nitens; statura & magnitudine Buprestis lætæ; longitudine —

In alio exemplare oculi fusci sunt, & corpus subtus æneum.

- 217 megacephala.

Nov. Spec. Pl. XI. fig. 9.

Caput nigrum, magnum, thorace latius, rotundatum, foveola frontali impressa. Oculi & antennæ nigri.

Thorax niger, marginatus, antice gibbosus.

Elytra nigra, integra, subtilissime & confertim punctata, apicibus rotundatis.

Abdomen æneo-nigrum.

Pedes nigri.

Tota nitens, cylindrica, longitudine — latitudine —

- 221 ELATER niger.

222

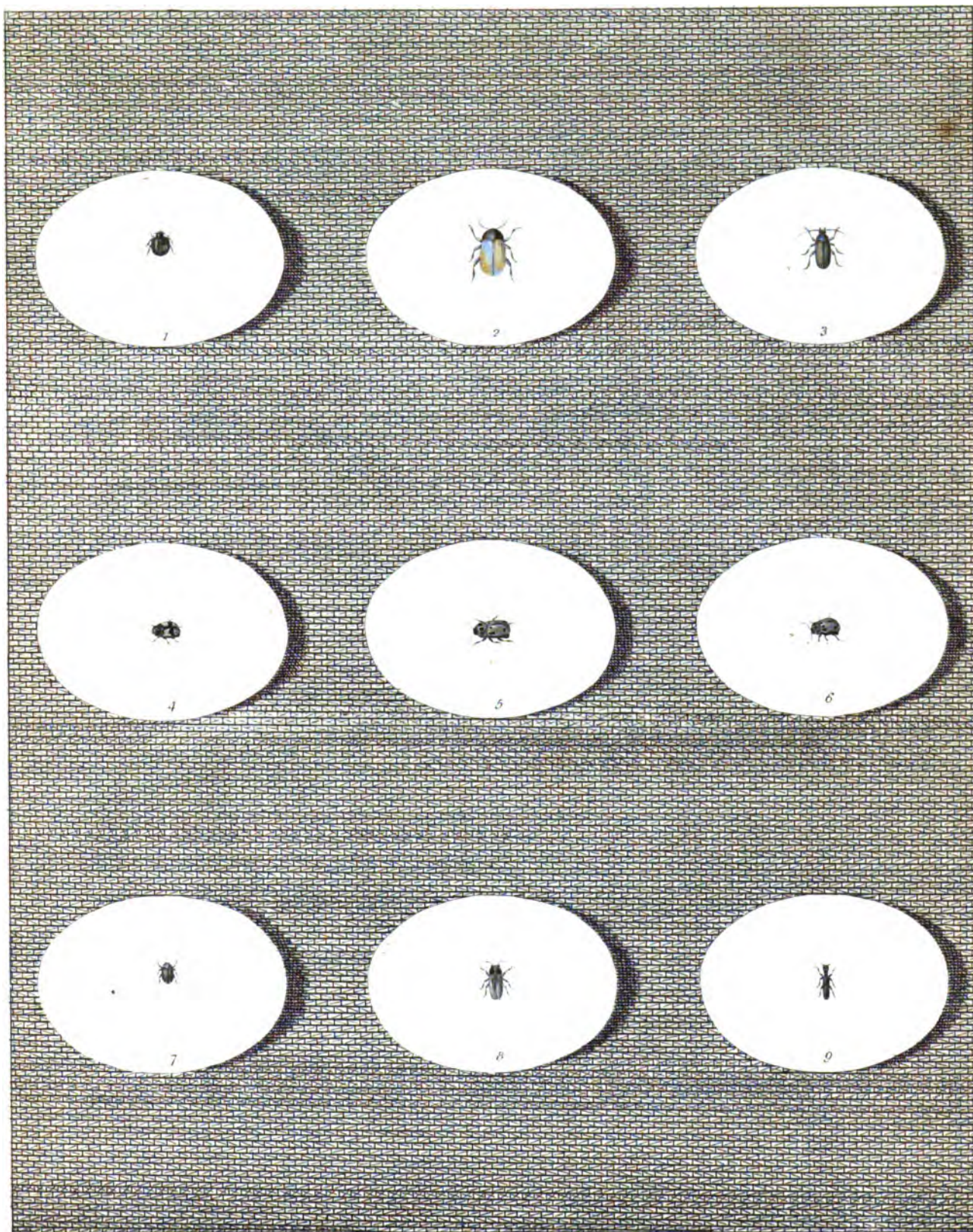
An precedentis var. ?

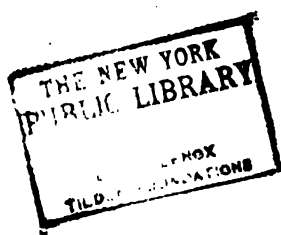
Subtus pedibusque piccus.

- 223 murinus ?
 225 teffellatus.
 224 undulatus.
 226 pectinicornis.
 227 cruciatus.
 228 castaneus.

Herbstii.

230 ELATER





- 229 ELATER thoracicus.
 229* hæmatodes.
 230 fanguineus.
 232 ephippium.
 233 balteatus.
 234 bimaculatus.
 240 bicolor. Faunæ Insect. Germanicæ, Panzeri.
 244 PRIONUS scabricornis.
 245 coriarius.
 247 CERAMBYX Cerdo.
 246 Heros.
 248 alpinus.
 249 Kaekleri. Var. Hungaricus.
 251 nebulosus.
 252 hispidus.
 253 An Nov. Spec.? Pl. XII. fig. 1.
 Ferrugineus, oculi nigri, elytra
 albo-subnebulosa, apicibus integerri-
 mis obtusis.
 Spina thoracis acuta retrospiciens.
 Antennæ $1\frac{1}{2}$ corporis longitudine.
 Caput, antennæ, thorax & elytra
 hispida. Longitudine —
 254 LAMIA atomaria.
 256 textor.
 263 futor. In exemplaribus meis thorax & elytra
 nigro-ænea, & maculæ elytrorum, &
 scutellum alba sunt; nec "elytris atris
 ferrugineo maculatis," ut in Entom.
 System. Maculæ pilis formantur; in
 duobus exemplaribus plane defunt.
 264 curculionoides.
 257 tristis. Scaber, totus niger, pilis albidis canes-
 cens. Elytra maculis duabus velu-
 tinis aterrimis.
 pedestris.

- 258 *LAMIA* rufipes. Cel. Fabricius in descriptione dixit, caput & thorax rufa; quæ in propriis exemplaribus nigra sunt.
- 259 Morio. Var. *Æthiops* Scopoli. Omnino nigra, nunquam pedibus, vel primo articulo antennarum testaceo aut castaneo.
- 260 Var. *fulvus* Scopoli. Articulus primus antennarum, pedes & elytra castanea, semperque concolores.
De fulvo, Scopoli dicit, "Elytris abdomine brevioribus:" hoc interdum verum est etiam in *æthiope*, non tamen semper. Abdomen versus apicem solummodo rufescit.
- 261 lineata.
- 270 *SAPERDA* scalaris.
- 271 oculata.
- 272 linearis.
- 273 erythrocephala.
- 273* Prec. varietas. Thorace toto nigro.
- 274 nigricornis. In hoc exemplare, thorax & elytra nigra sunt: lineæ thoracis & atomi elytrorum flavæ a pubescentia flava tantum pendent.
- 275 populnea. In exemplaribus meis, elytra punctis flavis ut plurimum 5 notantur, in nonnullis duobus tantum, in aliis omnino defunt. Color flavus a pubescentia pendet.
- 277 tremula. Color ut in *Melolontha farinosa* variat, nunc virescens, nunc cœlestis.
- 278 ferruginea.
- 279 violacea. Elytra subtilissime & confertim punctata, apicibus acutis. Scutellum album.

- 280 *SAPERDA cœlestis* Nov. Spec. Pl. XII. fig. 2.
 Caput viridi-cœleste. Oculi fusci.
 Antennæ fuscæ corporis longitudine, articulo primo virescente.
 Thorax cylindricus, capite concolor.
 Elytra viridi-cœlestia, subtilissime & confertim punctata, plana, subattenuata, apicibus truncatis.
 Abdomen cœlesti-viride.
 Pedes anteriores flavi, reliqui corpore concolores.
 Animal pulcherrimum, pubescens, longitudine ——. A *Saperda violacea* distinctissimum, non tantum colore sed etiam statura.
- 281 præusta.
 282 An Nov. Spec. ? Tota nigra, pubescentia alba cinerescens, subtus magis pubescens, scutellum albidum. Antennæ pilosæ corporis longitudine. Elytra subtilissime & confertim punctata.
 Longitudine ——
- 283 lineola.
 285 An cylindrica ? Tota nigra, pubescentia albida cinerescens, antennæ corporis longitudine, thorax linea oblitterata albida.
 Elytra plana, apicibus truncatis.
 Femoris apex & tibiæ pedum anteriorum flavæ. Longitudine ——
- 287 Pubescentia viridi-cinerescente tota vestita.
 Antennæ corporis longitudine.
 Elytra plana, apicibus truncatis.
 Longitudine ——
- 288 An Nov. Spec. ? Caput & oculi nigri, antennæ corporis longitudine luteæ, apicibus articulo-
 rum fuscis.
 Thorax niger.

Elytra

290 *SAPERDA*

Elytra nigra, punctata, plana, costis duabus elevatis, apicibus truncatis, marginibus versus basin flavescens. Abdomen sordide luteum.

Pedes anteriores lutei, reliqui abdomine concolores. Longitudine —

Caput nigrum, fronte pubescentia flava testata.

Oculi nigri. Antennae nigrae, corporis longitudine.

Thorax niger, pubescentia cinerescens, linea centrali flava. Pectus flavescit pilis.

Elytra nigra, pubescentia cinerescens, plana, apicibus truncatis; scutellum flavum.

Pedes anteriores flavi, reliqui femoribus flavis, tibiis nigris.

Longitudine —

291 atomaria.

Nov. Spec. Pl. XII. fig. 3.

Atomis luteis & nigris variegata.

Antennae corporis longitudine.

Elytra plana, apicibus truncatis.

Testa nigra est, sed ita pubescentia lutea testata, ut color illius minutissimis solummodo punctis perluceat.

294 *CALIDIUM* Bajulus.

295 atomarium.

296 fennicum.

297

298 clavipes.

299 violaceum.

299* cognatum.

Prec. var. Thorace nigro.

Antennae mediocres, nec longiores ut in Entomol. System.

Laicharting in Tyrol. Insect. Pl. XII. fig. 5.

Char. Specif. Nigrum, thorace angulato, elytris virescentibus rugosis, antennis mediocribus.

Caput nigrum nitens. Oculi lunati rufi. Antennæ nigræ, fere corporis longitudine.

Thorax niger, disco læviffimo nitidiffimo, lateribus depreffis punctatis, angulofo acuminatis. Pectus subrugofum.

Elytra æneo-viridia nitentia plana, rugofa præfertim ad bafin, lineis duabus elevatis, a medio ad apicem dilatata expañfa.

Abdomen nigrum.

Pedes nigri, femoribus clavatis.

Longitudine —————

300 CALIDIUM fanguineum.

309 luridum.

310 an precedentis var.? Elytris fulco-nigris & thorace minus gibbo.

311 friatum Laichartingi Tyrol. Insect.

308 florale. Fasciæ in exemplaribus meis fulphureæ funt, non albæ ut in Entom. System.

302 Arietis.

303 plebeium.

304 detritum.

305 ornatum.

306 myfticum.

An elytrorum bafis in femina rufa? Marem & feminam, fi femina myftici fuit, in coitu inveni, et bafis elytrorum non rufa fed nigra fuit. Antennæ et tarfi maris rufi, antennæ tamen feminæ nigro & albo variegatæ & tarfi nigri.

307 Alni.

315 LEPTURA livida.

316 melanura.

335 strigilata.

317 fanguinolenta.

338 meridiana.

332 villica.

319 *LEPTURA rubra.*

Purpureus !! mire varietas coloris purpurei potius lateritius.

320 testacea.

324 virens.

Sericeo-olivacea, antennis fusco luteoque annulatis. Testa nigra est; color olivaceus solummodo a pubescentia pendet.

325 atra.

326 humeralis.

334 lurida.

327 nigra.

335* 4-maculata.

337 8-maculata.

330 attenuata.

328 calcarata.

328½

An tibiæ posticæ in utroque sexu calcaratæ? Hæc et precedens simillimæ; dentes tamen tibiarum posticarum hic desunt, pauloque major est. Antennæ utriusque nigro et flavo annulatæ. Color flavus hic prædominatur, illic niger: forsan diversitas a sexu tantummodo pendet.

329 4-fasciata.

333 collaris.

341 *NECYDALIS scladonia.*

342 ustulata.

343 Podagrariæ.

344 testacea.

347 *SYNODENDRON cylindricum.*348 *SPONDYLIS buprestoides.*349 *APATE capucinus.*350 *BOSTRICUS typographus.*

351 pygmæus.

352 *BRUCHUS pisi.*

353 granarius.

354 An-

- 354 **ANTHRIBU** albinus.
 355 latirostris.
 359 **ATTELABUS** Coryli.
 356 curculionoides.
 357 Bacchus.
 358 Betuleti. Viridi-auratus.
 358* Var. violaceus.
 358† Var. viridi-auratus, subtus pedibusque violaceus.
 360 hungaricus.
 361 æquatus.
 362 efferans.
 Nov. Spec. Pl. XII. fig. 4.
 Char. Specificus: Rostro brevi, capite thoraceque rufis, elytris fuscis.
 Caput rufum, rostrum breve (longitudine capitis), oculi prominentes, antennæque nigri.
 Thorax rufus subcylindricus.
 Elytra fusca punctato-friata.
 Abdomen nigrum nitidum.
 Pedes, femoribus flavis, tibiis & tarsis fuscis. Totus pubescit.
 Longitudine —
 364 calibatus. Nov. Spec. Pl. XII. fig. 6.
 Caput nigrum, rostro brevissimo.
 Oculi antennæque nigri.
 Thorax niger, opacus, suborbiculatus, punctatus, canaliculatus.
 Elytra nigro-cærulea nitentia punctato-friata, apicibus rotundatis a se invicem sejunctis.
 Abdomen & pedes elytris concoloris.
 Longitudine —
 367 **CURCULIO** Pini.
 371 Iacea.
 366 Cynaræ.
 368 Colon.
 370 abbreviatus.

370**CURCULIO nitens?*

Thorax ad lentem punctatus, elytris punctato-striatis, statura precedentis.

Longitudine —

370†

Thorax punctatus, elytris striatis ordine punctorum inter striae, statura fere precedentis, minore tamen thoracis, latitudine. Longitudine eadem.

370‡

Thorax punctatus, elytris striatis.

Æneus nitidus.

Statura precedentis, paulo tamen angustior; longitudine —

An hæ duæ novæ species sunt nec ne, non liquet.

384

pericarpus.

386

Quercus.

407

Bardanæ? var. torquatus. Pl. XII. fig. 7.

Charact. Specificus: Longirostris cylindricus ater, pubescentia lutescens, thorace antice annulato.

Caput nigrum, rostro longo cylindrico lævi subarcuato. Oculi vix conspicui. Antennæ capitulo pubescentia cano.

Thorax subcylindricus, niger, subtilissime punctatus; antice annulo inciso cinctus.

Elytra nigra, punctato-striata, apicibus obtusis.

Abdomen nigrum.

Pedes nigri, femoribus simplicibus.

Longitudine —

390

Afcanii.

Caput fuscum. Oculi nigri. Antennæ capitulis pubescentia canis.

Thorax fuscus, opacus, impunctatus, subcylindricus; lateribus pubescentia albis.

Elytra fusca, pubescentia parum cinerescens, vix punctato-striata, lateribus pubescentia albis.

Abdomen

391 CURCULIO cylindricus ?

Abdomen & pectus pubescentia
cana.

Pedes, femoribus simplicibus, pu-
bescentia cani.

Pl. XII. fig. 8.

Char. Spec. Longirostris cylindri-
cus, fusco alboque variegatus, elytris
acuminatis.

Caput, oculi, & antennæ fuscæ ca-
pitulis canis; rostro lævi cylindrico
subarcuato, vix thoracis longitudine.

Thorax cylindricus, punctatus,
punctis confluentibus; supra fuscus,
subtus cum lateribus albus.

Elytra punctato-striata, punctis tri-
bus oblongis depressis ad basin magis
conspicuis, acuminata, fusca, macula
magna oblonga suturali cum macula
postica coalita, & punctis sparsis albis.

Abdomen fusco alboque varie-
gatum, fasciculis pilorum albidorum
exasperatum.

Pedes fusci albo variegati.

Longitudine ———

Obs. Color albus non in testa
hæret; est pubescentiæ species.

372 Abietis.
373 Lapathi.
374 germanus.

Totus niger, est C. dyrus Musei D.
Helwig.

374*

Punctis flavis pilosis sparsis. Fig. Sul-
zeri, tab. IV. fig. 8. optima.

375 Scrophulariæ.
376 5-punctatus.
377 guttula.
378 Echii.
379 varians ?
381 Nucum.
380 tortrix ?

Totus niger pubescens, elytris striatis
discrepantibus. Longitudine —

Capite pectoreque fuscis.

3 P 2

380*CURCULIO

380* *CURCULIO tortrix* ? var.

Capite, pectore, abdomineque fuscis.

392 viridis.

403 roridus.

Niger albo maculatus, rostro apice sulcato. Longitudine —

marmoratus.

Niger albo maculatus, rostro bisulcato. Longitudine —

393 fulcirostris.

394 obliquus.

395 3-guttatus.

397 punctatus.

401 niger.

398 Ligustici.

399 nubilus.

400 gemmatus.

405 argentatus.

389 danubialis

369 capucinus

370* Artemisiae.

370† Absinthii.

385 maculatus.

Schränkii.

Schallerii, Acta Hallensia.

Faunæ Germ. Panzerii.

Ibidem.

Nov. Spec. Pl. XII. fig. 9.

Char. Specif. Longirostris, femoribus simplicibus, niger, glaber; elytris striatis, apicibus macula magna communi rufa.

Caput nigrum, rostro lævi arcuato thoracis longitudine.

Thorax niger oculo armato subtilissime punctatus.

Elytra glabra striata nigra, apicibus macula magna rufa communi.

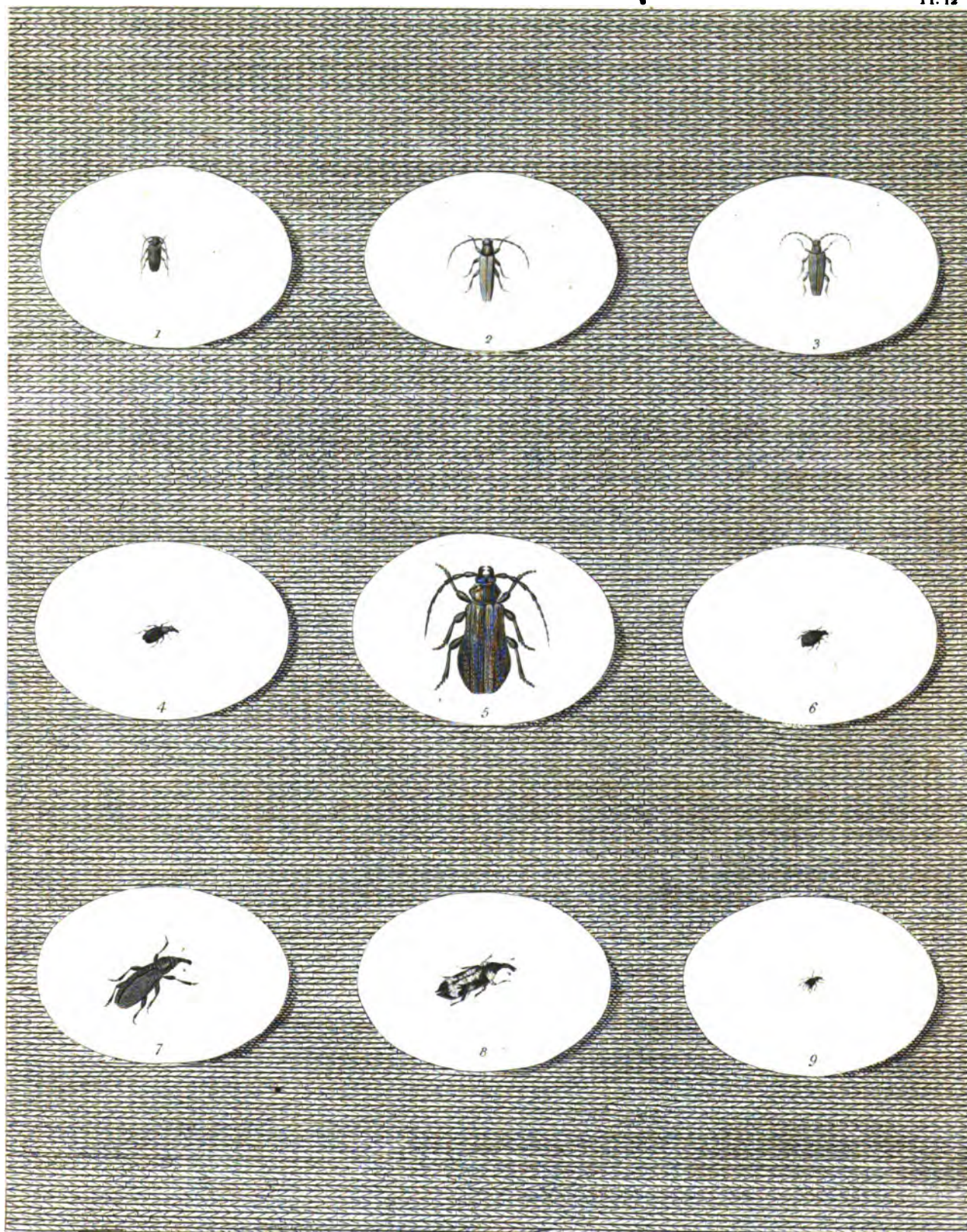
Pedes nigri, femoribus simplicibus.

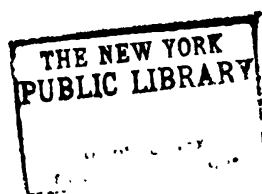
Longitudine —

396 seminulum ?

Si seminulum sit, femora pedum posteriorum dentata, non, mutica.

Æneo-niger. Thorax latus, brevis, scaber. Elytra hemisphærica, punctato-striata. Pubescit. Longitudine —





REGNUM
VEGETABILE.

REGNUM VEGETABILE.

VERONICA aphylla.
bellidioides.
fruticulosa.
alpina.
agrestis.

POA disticha.

In Alpibus Carpathicis, in monte
Fleisch-Bank dicto.

CYNOSURUS caeruleus.

GLOBULARIA vulgaris.

MYOSOTIS scorpioides. var. β .

In Alpibus Carpathicis prope lacum
Grün-See dictum.

ANDROSACE villosa.

Haud procul a Grün-See.

Foliis ciliatis, perianthiis villosis; nec foliis pilosis & perianthiis hirsutis
ut in Syst. Vegetab.

ANDROSACE pauciflora.

In rupibus calcareis haud procul a
Grün-See.

Foliis setaceo-linearibus glabris, pedunculis binis longitudine scapi, seg-
mentis corollae emarginatis.

Hæc est descriptio cel. Villarsii in Flora Delphinatus, unde in editionem
Gmelianam System. Vegetab. migravit. Rectius forte, saltem secun-
dum mea specimina: Foliis linearibus glabris, scapo subunifloro.

Inter viginti exemplaria unum tantum biflorum inveni, idque pedunculis
vix flore longioribus. Ipse Villars dicit nunc unifloros nunc bifloros esse.

PRIMULA

PRIMULA minima.

Folia cuneiformia apice acute crenata ; nullo modo hirsuta ut in Syst. Vegetab.

CORTUSA Matthioli.

In monte Fleisch-Bank.

Capsula 1-locularis ovalis, apice 5-valvis, ut in System. Vegetab. cel. Murrayi, non bivalvi ut in System. Nat. edito a cel. Gmelin, qui secutus est Gärtnerum de Seminibus, &c.

SOLDANELLA alpina.

Ad Grün-See.

CAMPANULA lilifolia.

Prope Bottdorf infra Alpes Carpathicas.

carpathica.

Ibidem.

alpina.

Prope Weisse-See ?

SWERTIA perennis.

Ad Grün-See.

GENTIANA punctata.

Ibidem.

asclepiadea.

Pneumonanthe.

verna.

tenella.

(Pl. XIV) In monte Fleisch-Bank.

Radix flavescent simplex tenuis flexuosa, fibrillis sparsis.

Caulis ascendens, bi- aut tri-pollicaris, basin versus tantum foliosus quatuor circiter paribus, unde nonnunquam pedunculi floriferi proveniunt ; superne nudus tenuis tetragonus parum curvatus.

Folia oblonga et ovato obtusa, inferiora sensim longiora connata vaginantia, superiora semiamplexicaulia interdum basi soluta.

Flores solitarii.

Calyx tetraphyllus, foliis alternis latioribus, basibus solutis & in modum scroti parvuli productis, latiora ovata, angustiora lanceolata.

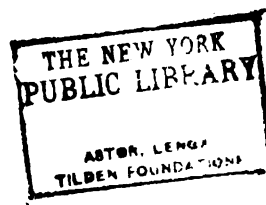
Corolla calyce duplo longior, limbo 4drifido segmentis lanceolatis, fauce barbata, in planta sicca flavescit,

Obs. Sine dubio Gentiana tenella cel. Rottöbollii in Kiöbenhavns Selskabs Skrifter, Tom. X. p. 436. Tab. II. fig. 6. bene descripta et depicta. Figura optime cum speciminibus meis convenit nisi quod



Gentiana frigida ?

London, Published by G.G. & J. Robinson, Paternoster Row, July 1st 1796.



magis ramosa fit. Cum ea quæ Rottböllius de hacce planta notavit lingua Danica scripta sint, ideoque nostratibus ignota fere remaneant, gratum illis fore arbitror, si descriptionem in linguam Latinam translata addam. Ita Rottböllius :

“ *Gentiana* 5ta omnium est rarissima et pulcherrima ; nulla apud auctores invenitur quacum hæc comparari possit, et sine dubio igitur nova est species. *Flos* illius est hypocrateriformis, habet tubum mediocriter longum & 4drangularem, cujus apertura (faux) in parte superiori est nonnihil contracta, & margo quo illa circumdatur crinibus occupatur crispatis. *Limbus* in quatuor dividitur partes (lacinias) parvas et ovatas, memorabilis est ob pedunculos longos erectos et elegantes, foliaque illius gaudent facultate quæ in nulla hujus generis planta reperitur ; sunt nempe basi sua soluta, et in parte superiori invicem conjuncta. Quo *Gentiana* hæc satis distinguitur a *G. campestri* Linnæi, cujus nonnulli putarunt varietatem, ob calycem inæqualem et faucem barbata ; sed, hac similitudine excepta, tam multæ aliæ adsunt differentiæ, et forma externa adeo variat, ut plurimæ aliæ *Gentianæ* potius essent conjungendæ quam hæc. Crescit in Islandiæ montibus ; color floris saturate cæruleus. Inter Linnæi species locum inter *G. campestræm* et ciliatam occupare debet ; nomen illius triviale sit, caulium tenerorum causa, *G. tenella*. Character & descriptio ejus sunt sequentes.

Gentiana tenella, foliis ovatis basi solutis, pedunculis filiformibus longissimis, fauce 4fida, barbata.

Radix simplicissima, filiformis, flexuosa.

Caulis unicus, tener, delicatus, tetragonus, subfuscus, mox supra radicem in ramis absumptus.

Rami. *Inferiores* oppositi vel 3ni, pollicares, minima distantia remoti, filiformes, flaccidi. *Superiores* alterni, breviores, $\frac{1}{2}$ vel 1. pol. remoti.

Folia opposita, ovata vel obovata, parva, sessilia, obtusa, venosa, erecta, cauli appressa, *basi soluta*, eo remotiora quo superiora.

Pedunculi uniflori, filiformes, stricti, erecti, caulem & ramos, quibus 2plo circiter longiores terminant.

3 Q

Perianthium

Perianthium 4-phyllum, *foliis* ovatis, venosis, obtusis, erectis, parum supra basin affixis, alternis latioribus.

Corolla monopetala, hypocrateriformis, striata, venosa, calyce 2plo longior. Tubus amplus, longus, tetragonus. *Faux* contracta, villis candicantibus flexuosis clausa. *Limbus* parvus, 4-partitus, laciniis ovatis, erectis, patentibus.

Stamina. Filamenta 4, subulata, tubo breviora. Antheræ incumbentes, oblongæ.

Pistillum. *Germen* oblongum, filamentis æquale. *Styli* 2 brevissimi. *Stigmata recurva*."

GENTIANA frigida.

Pl. XIII.

Radix ex radiculis flavescentibus.

Caulis ascendens, pollicaris ad 3-pollicarem, petiolis tabidis vaginantibus foliorum obductus.

Folia caulina lineari-lanceolata obtusa connata vaginantia evenia pollicaria, 3 aut 4 paria circiter, quorum duo summa paria sibi approximata immediate sub calyce posita sunt modo involucri.

Folia turionum caulinis similia et latitudine eadem, at longitudine fere triplicia, ita ut linearia evadant.

Flores bini terminales sessiles, fere sesqui-pollicares.

Calyx tubulosus 5-fidus laciniis lanceolatis alternis majoribus.

Corolla imberbis calyce duplo longior, campanulata plicata membranacea flavescent striis longitudinalibus & punctis conniventibus cæruleo-viridibus notata; 5-fida laciniis triangularibus æquilateralibus acutis, totidem denticulis vel lacinulis interjectis.

Capfula columnaris utrinque acuminata.

Cum hæc descriptio plantam siccam sequatur, non ingratum fore lectoribus spero, si optimam descriptionem cel. Hænkii *, quæ ad amissim cum planta mea quadrat, addam: "Gentiana corollis quinquefidis, campanulatis, terminalibus, sessilibus; foliis obtusis, radicalibus lineari-oblongis, caulinis lanceolatis; caule subbifloro. *Radix* ei perennans, oblique ascendens, gracilis, bi- et tri-pollicaris, utcumque teres, sed

* Hænkens botanische Beobachtungen auf Reisen nach dem Riesen-Gebirge.



Gentiana tenella.

London, Published by G.G. & J. Robinson, Paternoster Row, July 1st 1796.

geniculis nodulisque per intervalla aucta pluribus: e quibus fibras perquam copiosas, longissimas, teretes, perpendiculares, verticillatim subinde egredientes, demittit, versus superiora a tabidis imbricatisque albido aut flavescenti pellucetibus petiolorum præteritorum annorum exuviis crassescens: coloris cæterum ut et fibræ dilute flaventis, sapore vero intenso amaro, diu inhærente. Eadem nunc ut plurimum simplex, *caulem* solummodo unicum edit, aut multiceps plures, numerosos inter foliorum fasciculos, intricatis duntaxat atque accumulatis plurium caulium radicibus, ut cespites exigui non raro inde exsurgant: erecti hi sunt satisque pro pusillo plantæ habitu firmi, bi- aut ad summum tri-unciales, sæpe adeo humiles, ut caulem vix ullum, floresque vere acaules, *Gentianæ* acaulis in morem dixeris: glabri cæterum iidem, angulati, subtiliter striati, geniculo uno alterove modice ad foliorum conjugationes incrassati, ex flavo virides, striis hinc inde purpureascentibus picti, in summitate binos ut plurimum flores, rarius unum, rarissime vero tres sustinentes. *Folia* caulina bina et bina opposita, patentia, basi connato-seffilia, lanceolata aut ex lanceolato linearia, obtusa, margine integerrima aut rarius subundulata, crassiuscula, subcarnosa, utrinque glabra atque saturatius virentia, pollicem unum plus minus longa, lineas duas sæpe tres lata: suprema eorumdem paria, sibi approximata, calycibus florum immediate subiecta. Radicalia vero, atque illa in fasciculis, caulem ima basi vestientibus collecta, numero varia, in orbem expanduntur, vereque linearia sunt, aut ex lineari oblonga, itidem obtusa, in petiolum sensim attenuata, atque inde in vaginas illas aridas subdiaphanas, imbricatim imo cauli incumbentes abeuntia: caulinis cæterum excepta longitudine similia; pollices duos, etiam tres, longa; lineam unam et dimidiam, sæpe duas, lata. *Flores* terminales bini ut plurimum e sinu supremorum foliorum prodeuntes, pedunculo omni destituti, majusculi, erecti. *Calyx* tubuloso-cylindraceus, erectus, corolla duplo brevior, ore suo in segmenta quinque dividitur erecta, lanceolata aut linearia, auctiuscula, integerrima, glabra, una cum toto calyce crassiuscula. *Corolla* persistens, tenuis,

tenuis, papyracea, subdiaphana, *Gentianæ punctatæ* adinstar, albida, sed punctis rariter sparsis striisque ab apice fuscescente ad ipsam basim usque decurrentibus, cærulescentisque coloris variegata, duorum fere pollicum longitudine, diametro vero lineas tres, quatuor, circiter æquans: ad formam vero quod attinet, ea ex basi angustiore tubulosa sensim in ventrem ovato-cylindræcum utcunque campanulatum dilatam, tandem in limbum panditur angulato-plicatum, rugosiusculum, quinquefidum: ore patulo, glabro, imberbi: segmentis erectis lanceolato-ovatis, acutis, latere uno rotundatis, dente singulis minore acutiusculo alternatim interjecto. *Stamina* quinque: filamenta subulata, basi dilatata, internoque parieti in corollæ fere medio adfixa, aqueosæ cæruleæ sunt, corollæque breviora. *Anthere* breves, oblongæ, erectæ, apice subconniventes, flavent styli longitudine. *Germen* ovato-oblongum pedunculo ex fundo corollæ enato tereti, sensim magis magisque maturescens seminibus incrassato elongatoque infistit, superne vero in stylum cylindricum brevissimum tandem bifariam dehiscens abit: *Stigma* crassiusculum orbiculato-capitatum, ætate una cum stylo in duas partes secedit; extrorsum revolutas, ut bicornem demum appareat. *Capsula* ex ovali oblonga, acuminata, glabra, unilocularis, bivalvis, succrescentibus seminibus ultra corollæ faucem exserta, atque ad unam tertiam, sæpe et dimidiam, longitudinis suæ partem, dehiscens. *Semina* angulato-sulcata aspera fusca."——Et insuper addit: "Nequaquam ego stirpis perquam raræ primus inventor: et Carpatum montem eandem alit, unde plures ante annos beatus Lipp rei herbariæ peritissimus attulerat. Deinceps et ab illustri Jacquinio eodem loco lecta: sed altum hucusque de ea silentium, nec apud veteres, quantum novi, ejus extat memoria."

Mihi tamen videtur eadem planta esse quam in Tab. 50. Tom. 3. Itineris Pallasii sub nomine *Gentianæ punctatæ* affinis alpinæ albis floræ depictam cernimus. Folia tamen discrepare non negandum est, folia enim in speciminibus meis, plane ut in descriptione Hænkii, nec trinervia nec lato-lanceolata sunt; flores etiam non terni vel 4-terni sed bini. Si autem respicimus ad *Gentianam* floribus terminantibus diaphanis

Floræ

Floræ Sibir. cel. Gmelini, pag. 106. tom. 4. ab ipso Pallasio citatam, dubitatio subit an descriptio cel. Pallasii accurata sit : nam cel. Gmelin Gentianam rupestrem folio plantaginis angustifoliæ, flore albo diaphano striis et punctis cæruleis vario, Stelleri IRC. 4. citat. Flora IRC. adhuc incedita restat, descriptio tamen in Flora Sibirica in extenso data est, et bene cum planta nostra, et descriptione Hænkii convenit, et folia ibi descripta sunt sequenti modo : “ Radicallia numerosissima, diversæ longitudinis in orbem sparguntur, longissima 5, brevissima 2 pollicum, lata ad summum $\frac{3}{8}$ pollicis, hinc angusta, glabra, nervosa, costa ipsa radici adnata 5 ad 8 fasciculatim, ex uno ramulo prodeunt, flavo-viridia, qualis plantarum, in hybernaculo adservatarum, primo vere color esse solet. E medio foliorum caules surgunt, flavo-virides, teretes pro annositate plantæ geniculati, ab unico ad quatuor, duos et quinque pollices alti. Ad singula genicula caulis duo ex adverso alterno ordine eriguntur folia, sub floreendi tempus punicea, postea planè emarcida. E summo caule surgunt unus ad quinque flores sibi arcte incumbentes, fasciculosi, campaniformes patentes multifidi sesquipollicem longi, totidemque expanso et discisso flore in summitate lati, calice monophyllo albo, superius quinquesido, inferius tubulato et diaphano comprehensi. Floris fundo 5 adnascuntur stamina trigona, pyramidata, apices versus acuminata, diaphana, cærulescentia, quibus antheræ secundum longitudinem insident. E mediis staminibus adscendit pistillum fusiforme, ovato-acuminatum, pollicare, violaceum, quod sub medium Septembris in testam membranaceam abit, intra geminas suas valvas semina continentem fusca, papyracea. Planta hæc, pergit, coloris plane singularis est, nihil cum colore aliarum specierum analogi habentis, æmulatur vesicam piscinæ anémiam diaphanam, striis, et punctis plumbeis, lividis viridibusque variam.”——Nec minus congruit locus natalis,——“ Rupes videlicet ad minimum 2000 orgyias elata, undique præruptæ septentrionem versus æterna nive tegebantur.”——Quæ cum ita sint, plantam nostram, cum planta Hænkii, Gmelini & Stelleri eandem esse probabile est ; idem ne vero de planta Pallasii affirmare licet ?

Color

Color & consistentia floris peculiares in hacce stirpe sunt, & flos ad amuffim quadrat tam quoad formam & magnitudinem quam colorem & consistentiam; in numero solummodo variant, in descriptione Haenkii et in speciminibus meis bini adsunt flores, Pallasio teste terni vel quaterni, & Stelleri unus ad quinque. Folia profecto, ut antea dixi, cum nostris speciminibus non conveniunt, æque autem cum descriptionibus ab ipso Pallasio citatis; folia enim quæ in icone apposita exhibuit in Terminologia Linneana non nominantur late lanceolata. Icon habitum nostræ plantæ bene exprimit: inducorque ideo ut Pallasii quoque Gentianam Gentianæ punctatæ affinem eandem cum nostra esse censeam. Neque assentire possumus cel. Gmelin cui est solummodo varietas Pneumonanthes, neque immortalis Linnæo qui in secunda editione Spec. Plant. varietatem Gentianæ punctatæ esse opinatur: "Hujus (punctatæ) varietatem, inquit, legit cel. Gmelinus in Siberia foliis lineari-lanceolatis, floribus terminalibus ternis, pedunculis propriis, corollis flavis punctis sparsis purpurascentibus;" Rectior nobis videtur hæc opinio celeb. Pallasii: "Gentiana punctata quæ in Alpibus Siberiæ itidem albo flore occurrit, & præsertim consistentia differt, forsitan distinguenda, licet pro varietate posita ab illust. Linnæo." Plantam esse solummodo alpinam omnes convenimus: in vertice rupium altissimarum circa Bargusinum perpetua nive rigentium ad altitudinem 2000 orgyiarum legit Stellerus; in altissimo monte Sochondo in frigidissimis alpibus Dauriæ cel. Pallasius. Cel. Haenke in alpibus Styriæ, & ego in excelsis rupibus montium Carpathicorum haud procul a Grün-See.

LASERPITIUM simplex.

In alpibus Carpathicis.

PIMPINELLA dioica.

SAMBUCUS racemosa.

Prope Smölnitz.

LINUM hirsutum.

In monte prope Tokai.

tenuifolium.

Ibidem.

flavum.

Ibidem.

ILLECEBRUM Paronychia.

THESIUM

THESIUM alpinum.

linophyllum.

ANTHERICUM calyculatum.

JUNCUS spicatus.

EPILOBIUM alpinum.

Siliquis petiolatis, non siliquis sessilibus
ut in System. Vegetab. & in Flora
Danica.

Siliquæ ad maturitatem perductæ
petiolatæ petiolis longis.——Folia
oblonga, superiora angustiora.

EPILOBIUM Dodonæi.

Prope Botsdorf.

VACCINIUM uliginosum.

In monte Krivan.
Tabulæ 62. Clusii.

MOEHRINGEA muscosa.

SAXIFRAGA Aizoon.

Prope Grün-See.
Var. petalis rubro punctatis.
Var. petalis impunctatis.

androsæcea.

Ibidem.
Exemplaria mea fere omnia uniflora
sunt: ex Monte Austria Schneeberg
etiam uniflora accepi.

cæsia.

In summitate Montis Fleisch-Bank.

bryoides.

Prope Grün-See.

Caulis non multiflorus in exempla-
ribus meis; circiter centum legi, et
omnia uniflora. Hallerus caulem
uniflorum dicit, Scopoli caulem pau-
ciflorum.

oppositifolia.

autumnalis.

rivularis.

adscendens.

cæspitosa.

SAXIFRAGA.

SAXIFRAGA nivalis. var. racemosa. Pl. XV.

Char. Essentialis. Foliis ovatis & ellipticis dentatis longe petiolatis, scapo nudo pubescente, floribus racemosis.

Radix fusca brevis nodosa præmorsa, radiculis fuscis undique obfritis.

Scapus adscendens pubescens spithamæus et pedalis.

Folia ovata et elliptica glabra nervosa remote dentata, dentes apice callosa, in petiolis longis subvaginantibus desinentia.

Flores inconspicui (ut in *Saxifraga nivali*) breviter pedunculati racemosi ex decem circiter racemis partialibus subtrifloris alternis.

Bractææ ad basin pedunculorum tres, lineares, intermedia maxima.

Calyx 5-fidus.

Corolla. Petala 5 parva ovalia pallida. Stamina rubra. Antheris luteis.

Capsula bicornis, apicibus lividis.

GYPSOPHILLA repens.

Non foliis lanceolatis ut in *System. Vegetab.* sed linearibus et ensiformibus ut in figuris & descriptionibus *cel. Jacqini, Gerhardi, aliorumque.*

DIANTHUS prolifer.
deltoides.

superbus.

alpinus.

arenarius. Linn.

In summitate Montis Fleisch-Bank.

Pl. XVI.

Char. Essent. Caulibus subunifloris, squamis calycinis brevissimis subrotundis acuminatis, corollis multifidis, foliis subulatis glaucis ciliatis.

Radix

Caules semipedales adscendentes angulati glauci.

Turiones foliis imbricatis cæspitem conficientes.

Folia semipollicaria connata subulata triquetra canaliculata ciliato-ferrulata glauca, 5 paria circiter.

Flos subsolitarius pollicaris & ultra.

Calyx viridis lividusque longus ($\frac{1}{4}$ pollicis) cylindricus apicem versus angustatus quinquefidus laciniis lanceolatis; squamis duabus, nonnunquam quatuor brevissimis subrotundis acuminatis.

Corolla. Petala alba? spatulata, limbo fimbriato vel multifido.

In Hungaria legi, quo loco me fugit.

SILENE acaulis.

ARENARIA



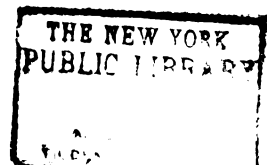
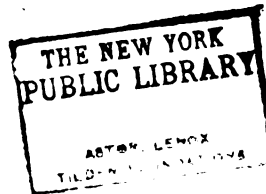
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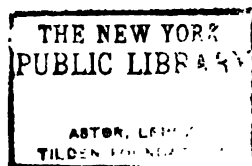
DIA

SE





Dianthus arenarius Linn.



ARENARIA ciliata Wulfennii.

laricifolia.

Exemplaria mea non bene quadrant cum characteribus Syst. Vegetab. Foliis setaceis, caule superne nudiusculo, calycibus subhirsutis. Potius foliis subulatis, caule superne folioso, calycibus subtomentosis.

caespitosa Erharti.

CHERLERIA Sedoides.

In summitate montis Fleisch-Bank.

CERASTIUM alpinum.

In alpinis Carpathicis.

latifolium.

Ibidem.

EUPHORBIA epithymoides.

SORBUS aucuparia.

Ad Grün-See.

MESPILUS Chamæ-Mespilus.

Ibidem.

POTENTILLA supina.

subacaulis ?

Folia, in exemplaribus meis, magis serrata quam dentata.

GEUM montanum.

Ad Grün-See.

reptans.

Nec 5-petala, nec sem. arista geniculata, generis characteres. Petala plerumque 8, nunquam minus quam 6. Aristæ curvatæ.

DRYAS octopetala.

In summitate montis Fleisch-Bank.

CISTUS celandicus.

Exemplaria mea, non foliis utrinque glabris, nec petalis emarginatis. Folia utrinque pilosa, magis in pagina superiore, etiam calyx pilosus, pedunculi tantum pubescunt.

ACONITUM Napellus.

Ad Grün-See.

ANEMONE alpina.

sylvestris.

narcissiflora.

ADONIS apennina.

Prope Oedinburgh.

miniata.

RANUNCULUS Thora.

aconitifolius.

rutæfolius.

glacialis.

In monte Fleisch-Bank.

Prope Grün-See.

Ibidem.

Exemplaria mea non calycibus hirsutis, nec caulibus bifloris, gaudent. Calyces dense villosi sunt, & caules variant, uniflori, biflori, triflori & quadriflori. Linnæus ipse in Flora Lapponica dicit: "Communiter eidem cauli insident flores duo." Apud Hallerum multiflori, rarius biflori & uniflori: inter 20 specimina 4 solummodo inveni biflora. Plantæ pumilæ sæpissime unifloræ, majores 4drifloræ.

alpestris.

falcatus.

Ad Grün-See.

MELITTIS Mellissophyllum.

Prope Bude.

BARTSIA alpina.

Ad Grün-See.

PEDICULARIS verticillata.

Ibidem.

flammea.

foliofa.

DIGITALIS ambigua.

Prope Bude.

Folia subtus nervis tantum pubescentibus.

DRABA aizoides.

hirta.

LEPIDIUM alpinum.

petræum.

In alpinis Carpathicis.

Foliola submucronata sunt.

BISCUTELLA lævigata.**CARDAMINE** petræa.

Prope Grün-See.

POLYGALA amara.

major.

HEDYSARUM obscurum.

In monte Fleisch-Bank.

PHACA frigida.

ASTRA-

ASTRAGALUS alpinus.	Ibidem.
vesicarius.	Ibidem.
SCORZONERA laciniata.	In mœnibus urbis Bude. Caulis ascendens nec erectus.
SONCHUS alpinus.	Ad Grün-See. Pedunculis strigosis, foliis pinnati- fido-runcinatis, lobo extimo deltoi- deo.
LEONTODON aureum.	In monte Fleisch-Bank.
HIERACIUM alpinum.	Ibidem.
ANDRYALA lanata.	Ibidem.
HYPOCHÆRIS helvetica.	Ibidem.
ARCTIUM Perfonata.	
CNICUS pygmaeus.	In monte Fleisch-Bank.
CACALIA albifrons.	Ad Grün-See.
GNAPHALIUM alpinum.	In alpihus Carpathicis. Gnaphalium alpinum Linn. G. pusillum Haenkii & G. fuscum Scopolii, eadem planta esse videtur; dum florescit, flores in capitulo congesti sunt; florescentia autem peracta flores sessiles vel subsessiles, in axillis foliorum discreti.
ERIGERON uniflorum.	In monte Fleisch-Bank.
TUSSILAGO alpina.	Ad Grün-See.
SENECIO incanus.	In Lomnitzer-Spitze. Folia non sunt tomentosa ut in Syft. Vegetab. sed ut apud Hallerum ar- gentea.
SENECIO abrotanifolius.	In monte Fleisch-Bank. Omnia mea exemplaria uniflora sunt. Cel. Jacquin dicit se accepisse a Dom. Lipp. ex montibus Carpathicis plurima specimina, omnia uniflora. Folia radicalia bipinnatifida, caulina pinnatifida.
SENECIO tenuifolius.	
farracenicus.	
ASTER alpinus.	In monte Fleisch-Bank.
Amellus.	

SOLIDAGO minima.

CINERARIA cordifolia.

ARNICA Doronicum.

DORONICUM bellidiastrum.

austriacum.

Ad Grün-See.

In Lomnitzer Spitze.

In monte Fleisch Bank.

Ad Grün-See.

CHRYSANTHEMUM alpinum.

Character generis Chrysanthemi in Speciebus Plantarum Reichardi est absentia pappi; in Generibus Plantarum cel. Schreberi pappus marginatus aut nullus; in Syft. Vegetab. cel. Gmelini pappus marginatus; in System. Vegetab. cel. Murrayi primum in conspectu generum pappus nullus, deinde in charactere generis, singulis generibus præposito, pappus marginatus. In hacce specie nullum inveni. Folia spatulata potius quam cuneiformia, longe petiolata, pinnatifida, supra glabra subtus tomentosa; folia summa caulina integra linearia.

CENTAUREA montana.

In monte Fleisch-Bank.

Foliis late lanceolatis, utrinque tomentosis.

Varietas? Prope Botßdorf.

Foliis anguste lanceolatis tomentosis enervibus.

FILAGO Leontopodium.

Prope Kostelesko.

VIOLA biflora.

Prope Grün-See.

grandiflora.

ORCHIS globosa.

conopsea.

SATYRIUM viride.

albidum.

CYPRIPEDIUM Calceolus.

OPHRYS arachnites.

alpina.

SERAPIAS latifolia.

CAREX pauciflora.

atrata.

CAREX limosa.

semper virens Flor. Delphin.

PINUS pumilio. Ita nuperrime a cel. Dom. Haenke descriptus est.

Pinus pumilio. Krumholz. Knieholz.

Pini, No. 1660, pag. 319, variet. v. Hall. Hist.

Pinus conis erectis. Tournef. Inst. 586.

Scheuchz. It. VI. pag. 460. — Du Hamel, No. 13 et

Pinus humilis iulo purpurascens. Tournef. Inst. du Hamel. No. 12.

Pinastr conis erectis. C. Bauh. p. 492.

Pinastr pumilio montanus. Parck.

Pinastr pumilio montis Arbæ (Arber) Bavariæ. Camerar. Hort. hœic Lackholz.

Pinus pumilio. Clusi Pann. p. 15.

Pinastr alpinus repens. Schwenckfeld. Cat. p. 159.

Pinus Sudeticus seu Carpaticus. Ungarisch. Magaz. 3ter band, p. 38.

Arbor humilis summa alpium juga, ubi quævis alia pini species fereque omnis arbor crescere recusat, incolit, atque ingentes sæpe tractus, denso confertoque fereque impenetrabili ramorum agmine obducit.

Radices longæ crassæ duræ lignosæ obliquæ aut subhorizontales, cortice fusco extus vestiuntur sæpe ad notabile intervallum nudæ supra terram continuatæ.

Rami vel immediate prodeunt ex ipsa radice, aut ex trunco, si adfit, prostrato atque radicante, sparsi conferti ascendentes longi tenaces flexiles altitudine pedum 4, 5, sæpe ipsam humanam altitudinem pede uno alterove plus minus superantes, teretes cortice crasso cinereo, a foliorum delapsorum tuberculis elevatis inæquali aspero tecti, superne ramosissimi. Ramuli sparsi confertique breves, basi inflexi nudi adhinc ascendentes, superne coarctati denseque foliosi.

Folia confertissima summitates ramorum occupant, binis atque binis semper conjunctim ex communi vagina membranacea arida lacera fusca aut cinerea prodeuntibus, atque tuberculo communi elevato insidentibus: ipsa cæterum linearia firma rigida subincurvata, sæpe etiam torta, apice obtuso.

obtusō mucrone terminata, latere interiore sibi obverso plana aut leviter excavata, extus convexa, marginibus quam argutissime ferrulata, glabra nitida subtiliter striata, profundius virentia, apice flavicante, unciam 1—1½ longa vix lineæ quadrantem lata.

Coni mares superiores plurimi congesti: feminini inferiores laterales sessiles constanter erecti sæpe solitarii sæpe verticillatim numero 10—12 congesti, ovati, aut subglobosi obtusi, conis pini Laricis magnitudine & figura simillimi, unciam unam aut paulo ultra longi, ultra unciam crassi, dilute fusci, aut purpurascens.

Squamæ imbricatæ, in adultioribus patulæ, mucrone qui in junioribus adest destitutæ, cæterum apice incrassatæ obtusæ, extrorsum gibbæ, intus nonnihil excavatæ, lateribus parallelis.

Rami diffracti uti et tota arbor resina hyalina fragrantis atque balsamici odoris turget, quæ pura hinc inde, præprimis in Hungaria ex montibus Carpaticis allata balsami nativi forma divenditur. Parant vero et simul ex ramorum combustionē violenta destillatione olei ætherei nonnihil empireumatici speciem, quod a vulgo sub titulo Krumholz-oel circumfertur et divenditur, atque in varios usus cedit.

Differt a Pin. Mugho Jacq. Icon. plant. rar. Tab. 193. montium subalpinorum Austriæ atque Stiria incola, imo. trunco prostrato radicante sæpe nullo, nec erecto: 2do. foliis confertioribus, crassioribus rigidioribus, obtusō mucrone præditis, profundius viridibus, subincurvatis: 3tio. vaginis foliorum brevioribus: 4to. conis semineis semper erectis subglobosis minoribus obtusis: 5to. cortice ramorum magis tuberculato. A Pin. sylvestri differt itidem trunco prostrato radicante: cortice magis æquali, nec ita rimoso: ramis confertioribus ascendentibus supra coarctatis: foliis brevioribus confertissimis rigidioribus, tuberculo proprio notabili insidentibus, apice obtuse mucronatis: conis quoque minoribus subglobosis, erectis fuscis aut ex fusco purpurascens.

SALIX herbacea.

reticulata.

In monte Fleisch-Bank.

VERATRUM album.

Ad Grün-Sec.

F I N I S.

ELEMENTS OF MINERALOGY,

BY DR. TOWNSON.

IN ONE VOL. OCTAVO.

AS I attribute the backward state of Mineralogy amongst us not to our indifference to pursuits of this kind, nor to our Island not affording a sufficient variety of the objects of this study to attract the attention of the inquisitive; but rather to the difficulty we labour under of acquiring this knowledge; I am induced, particularly by seeing with what zeal other branches of Natural History are cultivated, to attempt making this a more general study amongst us, by facilitating its acquisition. With this view I intend shortly to publish a Work entitled THE ELEMENTS OR PRINCIPLES OF MINERALOGY.

THAT the design of this Work may not be misunderstood; that it may not be supposed to be a *System of Mineralogy*; it is requisite I should say that my principal view is not to classify and describe Minerals, but to lay down the method in which they should be investigated, explain the language used in their description, and fix the principles on which they should be classed, and so forth: in short, to write a Work for this study similar in its design to that of the *Philosophia Botanica* of LINNEUS, or ROSE's, LEE's, and ROUSSEAU's *Elements of Botany*, long since published.

To second this view, and to facilitate the study of this entertaining and useful Science; as many of the characters are very difficultly expressed in language, and on some points far more so by figures, which are always resorted to in difficult cases in the other branches of Natural History; I shall annex a copious *Catalogue Raisonné*, or *Descriptive Catalogue* of a COLLECTION OF MINERALS which at my desire will be formed for this Work. The specimens which will compose these collections, besides shewing the characters, or those marks which are to be attended to in investigating and describing of Minerals; and besides explaining the language used in this Science, will form a CABINET containing most of the interesting objects of this study, particularly those which form the great mass of Rocks of which our Globe is composed, the Ores and their Matrices, and those Fossils which are interesting in Agriculture, the Arts, and Philosophical Speculations.

As the object of this Work is to introduce sound principles of Mineralogy, Scientific Terminology, and accurate denominations amongst us, I shall be very particular in the
Diagnosticks.

Diagnosticks and Nomenclature of these bodies : and without this the observations of Travellers, the speculations of Philosophers, and the communications of Economists, Technologists, &c. &c. &c. when relative to this subject, are unintelligible.

THE number of specimens in these Collections will, I think, be about Three Hundred, each properly numbered and arranged in a convenient chest : the price Twenty-five Guineas ; and as some of these Fossils must be procured from foreign countries, no Collection will be formed, unless ordered, and Five Guineas deposited at the time of subscribing. The Collections will be delivered in about a twelve-month, and according to priority of subscription.——Lest the Public should suppose that I intend in nowise to interfere in the forming of these Collections, and that they will therefore be at the mercy of some ignorant Dealer in Minerals, who may at my desire form them, I assure them that I shall make a Collection myself as a MODEL after which the others will be formed, and I will inspect every Collection, and be answerable for their accuracy.

Subscriptions for the Collections will be received by

Messrs. G. G. and J. ROBINSON, Paternoster-Row.

Mr. GEORGE NICOL, Pall-Mall.

Messrs. B. and J. WHITE, Fleet-Street.

Next Winter will be published a Translation of my OBSERVATIONES PHYSIOLOGICÆ DE AMPHIBIIS, with an additional Paper on the Respiration of the Tortoise.

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