

Über drei historische biologische Arbeitshypothesen.

Von Walther Horn, Berlin-Dahlem.

Im folgenden veröffentliche ich den Abdruck von Bruchstücken dreier 100 bis 150 Jahre alter Publikationen, da 1. ihre Originaldrucke selten sind, 2. ihr Inhalt wenig bekannt ist, 3. alle drei für die Geschichte der Biologie sehr interessant sind und 4. diese Arbeiten auch für alle „generellen Entomologen“ großes Interesse haben. Die Originale stammen von Giseke-Fabricius 1792, M. A. Plenciz 1762 und P. Matthew 1831.

Der Fabricius'sche Text ist seinerzeit in einem Werke erschienen, welches Giseke zusammen mit Fabricius erst lange nach dem Tode von Linné herausgegeben hat, und in welchem sie ihre persönlichen Niederschriften über kurze Vorlesungen geben, welche ihr Lehrer einst in Schweden vor wenigen Zuhörern über das natürliche System der Pflanzen und seine eigene Anschauung über die Entstehung der Pflanzen- und Tierwelt gehalten hat. Beide Schüler, Giseke wie Fabricius, hatten seinerzeit im Kolleg mitgeschrieben und geben nun in dem Werke von 1792 in einem gemeinschaftlichen Vorwort (der Text meist gegenüberstehend gedruckt) ihre Niederschriften bekannt. Der von mir veröffentlichte Text stammt von Fabricius und steht auf den Seiten 14, 16, 18 bis 20.

Der in der Anmerkung¹⁾ von mir gebrachte Wortlaut ist gleichfalls in der Arbeit abgedruckt, obwohl er aus bekannter Linné'scher Quelle stammt. Da er zum Verständnis der Sache manches ergänzt, gebe ich ihn hier¹⁾ gleichfalls wieder. Im übrigen verweise ich zum Verständnis des Ganzen auf meinen während der Tagung der diesjährigen „VI. Wanderversammlung Deutscher Entomologen“ in Hann.-Münden bzw. Göttingen gehaltenen Vortrag, der in dem Bericht über die Tagung in kurzem (Arb. phys. angew. Ent. Berlin-Dahlem, 3, Nr. 3) abgedruckt wird.

¹⁾ Anmerkung l. c. p. XLVIII: E Generibus Plantarum edit. VI (Holmiae 1764. 8.).

„1. Creator T. O. in primordio vestiit Vegetabile Medullare principiis constitutivis diversi Corticalis, unde tot difformia individua, quot Ordines Naturales, prognata.

2. Classicas has (1) plantas Omnipotens miscuit inter se, unde tot Genera ordinum, quot inde plantae.

3. Genericas has (2) miscuit natura, unde tot Species congeneres, quot hodie existunt.

4. Species has (3) miscuit Casus, unde totidem, quot passim occurrunt, Varietates.

5. Suadent haec (1—4) Creatoris leges a simplicibus ad Composita.

Naturae leges generationis in hybridis.

Hominis leges ex observatis a posteriori“.

Über die beiden anderen Arbeiten von M. A. Plenciz und P. Mathew kann ich mich kürzer fassen, da sie ohne weiteres verständlich sind (auch über sie vergleiche man meinen Vortrag auf der Wanderversammlung). Beide sind als geschlossene Kapitel in zwei größeren Werken erschienen.

„Caroli a Linné: Praelectiones in Ordines Naturales Plantarum“. E proprio et Jo. Chr. Fabricii edidit Paulus Diet. Giseke e. Hamburgi, 1792.

Auctor generationem viventium perpendens, corpus a patre provenire vidit, medullam a matre, nec solus pater, nec sola mater speciem propagare valet; duo adsint, necesse est. In medulla animali residet *id Velle*, seu Voluntas, quae in porrigendo seu extendendo & contrahendo consistit. Nam medulla nuda pro lubitu se extendere & contrahere potest, quod apparet in ultima Vermium specie. (System. Natur.) Volvox Chaos dicta, quae varias & quascunque figuras pro lubitu assumit. Medulla exserit fibras nervinas ad cor. Cor oritur a patre, & quidem a vermibus Leuwenhoekianis, & quot tales vermes vel puncta in genitura adsint, tot sunt generationis primordia. E combinata genitura maris & foeminae, id est: e combinatis corde & medulla, oritur vivum; nec e medulla oritur Cor, nec vice versa e corde Medulla. Hanc hypothesin illustrarunt & probarunt plantarum species hybridae e. g. Veronica hybrida, quam a matre Veronica & patre Verbena ortam esse primo apparet intuitu. At species hybridas sexum propagare posse negant; hi autem nimis festinanter concludunt.

Jam quaeritur: unde species, quae simillimae saepius sunt ratione fructus, dissimillimae sint ratione habitus (quamquam hoc rarius occurrat)?

Respondetur: Creator semper procedit a simplicibus ad composita, & a compositis ad magis composita & sic porro. Creavit ideo primum Genera; (p. 16) e generum miscela ortae sunt species. Stato itaque principio, quod medullare a matre, corticale a patre fit: plantae quae e miscela duarum plantarum diversi generis sunt ortae, ratione fructificationis matri similes sunt, ergo, tanquam ejus filiae, ad ejus genus pertinent, quamquam ratione habitus patri simillimae. Si jam eadem mater, seu ejusdem generis duae species, a patribus, ratione habitus maxime dissimilibus, inpregnantur, tunc certe ambae species, quin ejusdem sint generis, fieri non potest, quum ambarum matres sorores, vel species ejusdem generis fuerint; nec fieri etiam potest, quin & hae species novae ratione habitus maxime a se invicem recedant, quum singula patrem habuerit diversissimum. Ex eodem principio supra dicto apparet specierum ejusdem generis naturalis convenientia ratione qualitatis ac virium.

Stato jam principio: omnes species ejusdem generis ex una matre a diversis patribus ortas esse, supponendum:

1. Creatorem ab initio e singulo ordine naturali unicam creasse plantam, vi sexum propagandi praeditam.

2. Ex harum, varia miscela ortas esse diversas plantas, quae quum ratione fructificationis matrem aequant, ad ordinem naturalem matris pertineant, & tanquam ordinis species, id est, genera sint.

(p. 18.) 3. Supponendum plantas, quae ex ordinum miscela provenire, id est, genera ejusdem ordinis, iterum inter se misceri; tunc orirentur species, quae sub matre tanquam filiae, seu species, comprehendi deberent.

Ita supponendum est, ut creationis mysteria indagentur, & methodus naturam imitans inveniri possit. Qui ergo methodum naturalem quaerit,

1. Formet genera, & quidem naturalia.

2. Formatis his, eorum examinet convenientiam & affinitatem; tum habebit ordinis notionem. Nam nemo e. g. Zeam & Poam idem esse genus dicit, quamquam affines eas esse videt; concludit ergo, eas diversa esse genera ejusdem ordinis.

Si methodus vere naturalis est: affinitates generum & ordinum inter se apparere debent; & ita formari debet methodus naturalis, ut genus intermedium, vel ordo intermedius, quasi cum antecedente & sequenti genere vel ordine cohaereat, & inde quasi oriatur catena. Sed talem methodum haud facile quis praestabit; deficiunt enim genera nondum detecta, quae hiatum & defectum in catena naturali efficiunt, unde fit, ut interdum desinat ordo & affinitas perspicui nequeat. Hinc Vagae oriuntur, quarum locus in ordine naturali incertus est, ob defectum earum, quae has cum aliis in suo ordine jungere deberent.

Patrick Matthew: „On naval Timber and Arboriculture“.
Edinburgh & London, 1831.

Note A.

It is only on the *Ocean* that *Universal Empire* is practicable—only by means of *Navigation* that all the world can be subdued or retained under one dominion. On land, the greatest numbers, and quantity of materiel, are unavailable, excepting around the spot where they are produced. The most powerful army is crippled by advancing a few degrees in an enemy's territory, unless when aided by some catching enthusiasm; its resources get distant — communication is obstructed — subjection does not extend beyond the range of its guns, and it quickly melts away. The impossibility of dominion extending over a great space, when communication is only by land, has often been proved. The rule of Cyrus, or Alexander, the Cæsars, the Tartar conquerors¹⁾, or Bonaparte, did not

¹⁾ The very extended sway, the state of civilization considered, of the Tartar, was evidently the consequence of the great facility of communication from the plain open surface of the country, and the equestrian habits of the people.

extend over a tithe of the earth; and we may believe, that, by some of these chiefs, dominion was extended as widely as under land communication could be effected — further than under it could be supported.

On the contrary, when a powerful nation has her warlike strength afloat, and possesses naval superiority, independent of being unassailable herself, every spot of the world, wherever a wave can roll, is accessible to her power and under her control. In a very short time she can throw an irresistible force, unexhausted by marches, and with every resource, upon any hostile point, the point of attack being in her own choice, and unknown to the enemy. In case of her dependent dominions being scattered over the two hemispheres, her means of communication, and consequent power of defending these and supporting authority, are more facile than what exists between the seat of government of any ordinary sized continental kingdom and its provinces. Were a popular system of colonial government adopted, many islands and inferior states would find it their interest to become incorporated as part of the Empire.

Note B.

There is a law universal in nature, tending to render every reproductive being the best possibly suited to its condition that its kind, or that organized matter, is susceptible of, which appears intended to model the physical and mental or instinctive powers, to their highest perfection, and to continue them so. This law sustains the lion in his strength, the hare in her swiftness, and the fox in his wiles. As Nature, in all her modifications of life, has a power of increase far beyond what is needed to supply the place of what falls by Time's decay, those individuals who possess not the requisite strength, swiftness, hardihood, or cunning, fall prematurely without reproducing — either a prey to their natural devourers, or sinking under disease, generally induced by want of nourishment, their place being occupied by the more perfect of their own kind, who are pressing on the means of subsistence. The law of entail, necessary to hereditary nobility, is an outrage on this law of nature which she will not pass unavenged — a law which has the most debasing influence upon the energies of a people, and will sooner or later lead to general subversion, more especially when the executive of a country remains for a considerable time efficient, and no effort is needed on the part of the nobility to protect their own, or no war to draw forth or preserve their powers by exertion. It is all very well, when, in stormy times, the baron has every faculty trained to its utmost ability in keeping his proud crest aloft. How far hereditary nobility, under effective government, has operated to retard "the march of intellect", and deteriorate the species in modern Europe, is an interesting and important question. We have

seen it play its part in France; we see exhibition of its influence throughout the Iberian peninsula, to the utmost degradation of its victims. It has rendered the Italian peninsula, with its islands, a blank in the political map of Europe. Let the panegyrists of hereditary nobility, primogeniture, and entail, say what these countries might not have been but for the baneful influence of this unnatural custom. It is an eastern proverb, that no king is many removes from a shepherd. Most conquerors and founders of dynasties have followed the plough or the flock. Nobility, to be in the highest perfection, like the finer varieties of fruits, independent of having its vigour excited by regular married alliance with wilder stocks, would require stated complete renovation, by selection anew, from among the purest crab. In some places, this renovation would not be so soon requisite as in others, and, judging from facts, we would instance Britain as perhaps the soil where nobility will continue the longest untainted. As we advance nearer to the equator, renovation becomes sooner necessary, excepting at high elevation—in many places, every third generation, at least with the Caucasian breed, although the finest stocks be regularly imported. This renovation is required as well physically as morally.

It is chiefly in regard to the interval of time between the period of necessary feudal authority, and that when the body of the population having acquired the power of self-government from the spread of knowledge, claim a community of rights, that we have adverted to the use of war. The manufacturer, the merchant, the sailor, the capitalist, whose mind is not corrupted by the indolence induced under the law of entail, are too much occupied to require any stimulant beyond what the game in the wide field of commercial adventure affords. A great change in the circumstances of man is obviously at hand. In the first step beyond the condition of the wandering savage, while the lower classes from ignorance remained as helpless children, mankind naturally fell into clans under paternal or feudal government; but as children, when grown up to maturity, with the necessity for protection, lose the subordination to parental authority, so the great mass of the present population requiring no guidance from a particular class of feudal lords, will not continue to tolerate any hereditary claims of authority of one portion of the population over their fellow-men; nor any laws to keep up rank and wealth corresponding to this exclusive power. — It would be *wisdom* in the noblesse of Europe to abolish every claim or law which serves to point them out a separate class, and, as quickly as possible, to merge themselves into the mass of the population. It is a law manifest in nature, that when the use of any thing is past, its existence is no longer kept up.

Although the necessity for the existence of feudal lords is past, yet

the same does not hold in respect to a hereditary head or King; and the stability of this head of the government will, in no way, be lessened by such a change. In the present state of European society, perhaps no other rule can be so mild and efficient as that of a liberal benevolent monarch, assisted by a popular representative Parliament. The poorest man looks up to his king as his own, with affection and pride, and considers him a protector; while he only regards the antiquated feudal lord with contempt. The influence of a respected hereditary family, as head of a country, is also of great utility in forming a principle of union to the different members, and in giving unity and stability to the government.

In respect to our own great landholders themselves, we would ask, where is there that unnatural parent — that miserable victim of hereditary pride — who does not desire to see his domains equally divided among his own children? The high paid sinecures in church and state will not much longer be a great motive for keeping up a powerful family head, whose influence may burthen their fellow-citizens with the younger branches. Besides, when a portion of land is so large, that the owner cannot have an individual acquaintance and associations with every stream, and bush, and rock, and knoll, the deep enjoyment which the smaller native proprietor would have in the peculiar features, is not called forth, and is lost to man. The abolition of the law of entail and primogeniture, will, in the present state of civilization, not only add to the happiness of the proprietor, heighten morality, and give much greater stability to the social order, but will also give a general stimulus to industry and improvement, increasing the comforts and elevating the condition of the operative class.

In the new state of things which is near at hand, the proprietor and the mercantile class will amalgamise, — employment in useful occupations will not continue to be held in scorn, — the merchant and manufacturer will no longer be barely tolerated to exist, harassed at every turn by imposts and the interference of petty tyrants; — Government, instead of forming an engine of oppression, being simplified and based on morality and justice, will become a cheap and efficient protection to person and property; and the necessary taxation being levied from property alone, every individual will purchase in the cheapest market, and sell the produce of his industry in the dearest. This period might, perhaps, be accelerated throughout Europe, did the merchants and capitalists only know their own strength. Let them, as citizens of the world, hold annual congress in some central place, and deliberate on the interests of man, which is their own, and throw the whole of their influence to support liberal and just governments, and to repress slavery, crime, bigotry — tyranny in all shapes. A Rothschild might earn an unstained

fame, as great as yet has been attained by man, by organizing such a power, and presiding at its councils.

Note C.

The influence of long continued impression, constituting instinct or habit of breed, is a curious phenomenon in the animal economy. Our population in the eastern maritime districts of Britain, descended principally from the Scandinavian rover, though devoted for a time to agricultural or mechanical occupation, betake themselves, when opportunity offers, to their old element, the ocean¹⁾, and launch out upon the "wintry wave" with much of the same home-felt composure as does the white polar bear. They roam over every sea and every shore, from Behring's Straits to Magellan's, with as little solicitude as the Kelt over his own misty hill, overcoming, in endurance, the native of the torrid zone under his vertical sun, and the native of the frigid among his polar snows.

(Fortsetzung im nächsten Heft.)

Besprechungen.

Von Hans Sachtleben.

Einsendung von Besprechungs-Exemplaren selbständig erscheinender Werke aus allen Gebieten der theoretischen und angewandten Insektenkunde ist erwünscht!

Borradaile, L. A., Potts, F. A., Eastham, L. E. S. & Saunders, J. T.,
The Invertebrata. 2nd Ed. Verlag Macmillan Company,
New York, & University Press, Cambridge, England, 1936,
8°, XV & 725 S., 483 Textfig. Preis 4 \$.

Das als Lehrbuch für vorgeschrittene Studierende der Zoologie gedachte Werk bietet eine ausgezeichnete Einführung in die Morphologie

¹⁾ The habit of breed is apparent in many places of the world. Where a fine river washes the walls of some of the internal towns of France, scarce a boat is to be seen, except the long tract-boats employed in the conveyance of fire-wood — nobody thinks of sailing for pleasure. The Esquimaux, and the Red Indian of North America, inhabiting the same country, shew an entirely distinct habit of breed. The Black and the Copper-coloured native of the Australian Islands, are equally opposed in instinctive habit.