# Natural History.

By GRRARD KREFFT.

## Remarks on New Hypotheses.

Accessors to promise, I bring before your readers some of the scientific news received by the mail, though it is necessary to begin the account with a rather lengthy introduction. All the journals bristle with "evolutionary" (or revolutionary) discussions, and we shall soon have to discard the term " biology, for living organisms such as animals and plants, if philosophers like Hacckel, the distinguished, uncompromising, and learced professor of Jena, succeed to tumble the whole creation into one. This gentleman, who has out-darwined Mr. Darwin, aims at nothing less than to fill up the chasm between the organic and inorganic world, and to bring rocks and crystals,in fact everything which exists, into the same category with living organisms. We are told by the able reviewer of Professor Haeckel's works in the found to contradict certain facts, or when the same facts are more satisfactorily explained by a new hypothesis." Professor Max Müller is very angry with his famous countryman, Haeckel; he calls his theory "Evolutionary Materialism," though he believes " that the human mind stands in need occa-sionally of mental thunderstorms, because after pass-ing through one of the decisive battles of the world of thought, our brains display greater vigour and fresh-ness then ever." ness than ever.'

Max Müller considers the question of "Evolution" in much too scrious a light. He thinks that we are on the eve of a storm which will shake the oldest convic-tions of the world, and upset everything that is not firmly rooted. This shows how little Professor Max knows the world abroad, and if ever there was a scason when people flock round those who interpret the faith in which they were brought up, it is the present time, in Australia at least. After this digression, I shall try and explain what our men of science have done during the last twenty-five years, and for that purpose quote part of an elequent address delivered by Professor Ferdinand Cohen, at Breslau, in Silesia, on the occasion of Pro-fessor Goppert's 25th anniversary as President of the Silesian Society for National Culture." It is necessary that such a resume should be given

Silesian Society for National Culture.<sup>3</sup> It is necessary that such a resume should be given because almost every other book now published on Natural Sciences refers to some of the discoveries mentioned, and these discoveries, it is highly probable, have not penetrated to every place which the Sydney Mail makes bright once a week. Professor Cohen remarks:—" There are three dis-coveries which, during the last quarter of a century, have entirely changed the position of natural science —the mechanical equivalent of heat, spectrum analysis, and the Darwinian theories. Since, in the year 1842, an unknown physician in a Swabian country town, Dr. Mayer of Heilbronn, pointed out that a hammer 424 kilogrammes in weight, which falls from the height of a metre on an arvil, raises the heat of the latter by one degree centigrade, and that by this from the height of a metre on an anvi, raises the heat of the latter by one degree centigrade, and that by this process of bringing a falling motion to a standstill, it is converted into a fixed quantity of heat, since then has science gained a new conception of the conditions of matter, and of the powers of nature. This new doctrine appears in the mechanical theory of heat anneunced by Joule, Maxwell and others in the doctrine of the conservation of energy of Helmholtz and Thomson, and by means of the brilliant writings of Tyndall it has become the common property of the and Thomson, and by means of the brilliant writings of Tyndall it has become the common property of the educated world. Electricity, and magnetism, heat and light, muscular energy and chemical attraction, motion and mechanical work—all forces in the universe—are only different forms of one and the same power, which has dwelt from the first in matter in invariable quantity, neither increased nor diminished. Not the least triffe of it can be annihilated or created. Solv the phenemenal forms of power are changeable: Not the least trifle of it can be annihilated or created. Only the phenemenal forms of power are changeable; light can be converted into a chemical equivalent, this again into heat, heat into motion, and indeed a fixed quantity of one force always and only into an equiva-lent quantity of mother in like manner also. The quantity of matter has remained unchanged from the beginning; not the least particle or molecule can be availabled. quantity of matter has remained unchanged from the beginning : not the least particle or molecule can be annihilated or created out of nothing, and only in the transformation of perishable bodies are the molecules formed into ever new combinations. What we distinguish as natural forces are only movements of molecules, for the least particles of matter out of which bodies are composed are not inseparably united to each other, but are loosely held together, and in continuous whirling and undulatory motion. Accord-ing to the swiftness and width of undulation of the molecule will this motion of our nerves be regarded now as sound, now as heat, then as light or as colour. Moreover, the chemical union of the elements of matter, the attractive power of gravitation in all the 

on which by-and-bye the first animal and plant life made its appearance. After an almost infinite length of time, during which the Silurian, Devonian, Carbo-nifrous and Permian strata were deposited, a ter-rible catastrophe, affecting simultaneously the whole earth, so completely destroyed the first Palaeozeic life, that not a single species survived the universal devastation. Upon the lifeless expanse it was supposed appeared their forming the secondary fauna and fora, entirely unconnected with, and different from, the extinguished one, until after frequent repetitions of the same process at longer or shorter intervals, man made his appearance, and along with him all existing plants and animals. With him begins the Historical Period, whose duration has not exceeded 6000 years. The causes of these world-wide revolutions, geology sought in the violent reaction of the molten interior against the once extremely slender crust. In opposition to these views the opinion peculiarly associated with the name of Lyell has made way, that no violent reacting a strained anima of the solen crust. In opposition to these views the opinion peculiarly associated with the name of Lyell has made way, that no violent revolutions, returning at intervals, destroyed the external structure of the earth and all life is sustained; but that all changes even in the earliest times affected only the earth's surface, and that these could only be results of the same powers of nature which are actively at work on the earth at the present time; and that moreover the gradual but ever active powers of water, of air, and the earth at the present time; and that indicover any gradual but ever active powers of water, of air, and of chemical change have, perhaps, had a greater share in accomplishing these transformations than the fierce heat of subternanean masses of lava. The explorers of the buried remains of plants and animals show it

in accomplishing these transformations than the fierce heat of subternanean masses of lava. The explorers of the buried remains of plants and animals show it to be impossible that all life in those geological for-mations could have been destroyed simultaneously, for many species are common at several stages; in particular many existing animals and plants reach far back into the primitive world." Man himself could be shown to have been contom-perary with many extinct species of plants and animals, and therefore his age on the earth must be extended back to an indefinite period.† Man was witness to the inundation which buried the plains of the old and the new world under the waves of the sea of ice. Even in the immediately preceding period, when the subtropical element, thi-roceros, and hippopotamus disported themselves in the lignite woods of Middle Europe, have traces of mankind been found. Only in the most recent times has a foundation been laid for the prehistoric records of mankind, by means of which we may be able to obtain a knowledge of the state of civilization weapons, implements, and dwellings of that primitive race. No book of recent times, Dr. Cohen thinks, has in-fluenced to such an extent the sumets of medera

Implements, and dwellings of that primitive race. No book of recent times, Dr. Cohen thinks, has in-fluenced to such an extent the aspects of modern natural science as Charles Darwin's work "On the Origin of Species," the first edition of which appeared in 1859 (the last or sixth edition in January, 1872); for even so late a period was the immutability of species believed in; so long was it accepted as indu-bitable that all characteristics which belong to any precise of plants and animals were transmitted unabspecies of plants and animals were transmitted unal-tered through all generations, and were under no circumstances changeable; so long did the appearance of a new fauna and flora remain one of the impene-trable mystarize of sciences.<sup>4</sup> Trable mysteries of science. Professor Cohen does not doubt but that Darwin

and his school may have over estimated the reach of the explanations given by him to account for the transmutation of species, and especially the importance of natural and sexual selection, but the fundamental fact has been established, and will remain so for all future time.

The fact is that the collective life of the earth, from The fact is that the collective life of the earth, from the beginning even until now, and from the fungus cell up to man, represents a single series which has never once been broken, whose members, through direct propagation, have proceeded out of each other, and in the course of a vast period have been developed into manifold and, on the whole, perfect forms. Schlidden in his "Primeline of Scientific Reterry"

into manifold and, on the whole, perfect forms. Schleiden, in his "Principles of Scientific Botany" drew attention to the immutable law that all vege-table phenomena and all the various forms of plants proceed from the life and development of their cells. Schwann then discovered that animal bodies also were built up from an analogous cell. The most highly developed animal differs from the sim-plest plant only in the number and greater develop-ment of the matter composing the cell, and in the division of labour—the strict subordination of the separate cells to the collective life of the organism. Between the two extremes of the living world, the separate cells to the collective life of the organism. Between the two extremes of the living world, the yeast-fungus and man, there is the same difference as there is between a group of individual men who do not know how to organise their strength, and a strictly disciplined well ordered army, suitably formed and well armed, and what by the strict sub-ordination of the many wills to the central authority is always equal to the highest achievements." Professor Cohen is gridently alloding to the last

is always equal to the highest achievements." Professor Cohen is evidently alluding to the last war, during which, regardless of praise and prayer on both sides, the "God of Battles" was with the best general, and the best disciplined if not always the biggest battalions. After stating that all these researches into biology have left most important questions unsolved, the able lecturer confesses that the beginning of life is still wrapped in observity.

wrapped in obscurity.

conclude with the following remarks of Dr. Cohen :

"But if anxious souls should fear that with the advance of a scientific knowledge of the universe among the people, would come a breaking-up of political and social order, let them be assured by the teaching of history. When we perceive the flush of

tree was, 263 had some idea of ploughing, and only 176 had ever heard a lark sing." Considering that a large proportion of the poor of the new Imperial city have lived in tuns, vats, and packing cases, the result is not so bad, and will favourably compare with a similar number of youthful cockneys. Still there is room for improvement. Max. Müller tells us that the world from workshop to palace is over-run with believers in all sorts of new notices, but with such a splendid crop of ignorance it matters little (as Professor Max says) what the religion or the run with believers in all sorts of new notices, but with such a splendid crop of ignorance it matters little (as Professor Max says) what the religion or the dominant philosophy of a State is like, provided the morals of these children are good. If morality is de-ficient, then there is the drill-master and a strong police who will keep order, and should they break out, the rebels will be "dispatched" and have an opportunity to return to their original state of "jelly-fish," or "simple cell," abiding their time, like Micawber, till something better turns up during the next cycle. next cycle.

#### THE QUARTER'S REVENUE.

RECEIPTS AND PAYMENTS. itatement showing the Consolidated Revenue Fund, the Loan tatement snewing the Communicate Internet Fund, the Loss Fund, 55 Victoria, No. 5; the Loss Fund, 55 Victoria, No. 5; the Loss Fund, Fund; Fund Stock Ast; the Superannuation Repeal Fund; the Trust Fund Accounts of the Government of New South Wales, the Receipts and Payments during the quarter ended 50th June, 1873, as per sccompanying statements :--

Accessis.	Receipt during t quarter of 30th Ju 1878.	he.	Payme during quarter of 30th Ju 1873	the ender inc,	od
Consolidated Revenue Fund Loans Account The Loan Fund, 35 Victoria, No. 5 The Loan Fund, 56 Victoria, No. 5 The Loan Fund, 50 Victoria, No. 5 The Loan Fund, Funded Stock Act Superannuation Repeat Fund		3 8 8 8 0 0	*£633,728 18,119 9,155 25,666 85,090	8 1 11	88488
Trust Fund Accounts :		0 (	85,939 46,176	6	5
Fund (27 Vic. No. 11) Clergy and School Estates Fund	930 1 3,982 1 595 1	5 4	1,217 2,331 205	7 6 16	4 0 10
Police Beward Fund Police Superannuation Fund		2 6	1,439 1,106	12	58
Imperial Poetage	383 1		661	12	3
Scemen's Wages	145 1	8 9 8 4	100 27,877	0 15	04
Imperial Money Orders Account Assurance Fund-Real Property	7,000	0 0	7,500	0	0
Act Commissioners' Fund-Real Pro-	108	5 0	15	1	0
Fishopthorpe Estate Fund Trust Moneys Account (20 Vic.,	150	ŏ ŏ	150		ø
No. 11)	11,836	3 8	14,305	3	7
Necropolis Fres	3,083 1	4 2	193	6	11
count Bailway Stores Account The Gold-fields' Survey Fee Ac-	108,529 19,812 1	7 3	84,918 18,701	9 15	9 9
count	1,780 23,518	0 6	1,422 13,882	0	02
British-Australian Telegraph Ac-	4,057 1	5.1	3,680	4	5
Imperial Pension Fund Account, Imperial Pension Fund Commis-		0 0	10,500	0	0
Sundry Deposits Account	1,545 1		5,104	16	7
Totals £ * Includes £50,000 advanced to Act, and £53,000 advanced to the f	1,165,613 the Loan b Superannua	Pund	£964.317 , Funded Repeal F	Sto	9 ck
DISTINBUTION OF THE BALAS Bank of New South Wales ; Lopdon Account	£499,703 1	1	UNE, 1873	•	
Public Account, Sydney The Loan Fund, under 35 Vic.,	625,434 15				
No. 5 The Loan Fund, under 36 Vic.,	19,870 2				
No. 2 The Loan Fund Funded Stock	121,268 3				
Act Superannuation Repeat Fund Cash in hands of the Chief Clerk of the Revenue Branch (subse-	6,823 13	;;			
quently deposited in Bank) Bank of New South Wales-	28,974 1	1 7			
Newcastle Branch	10,853 13	8	1,326,968		
				1	
Treasury Chest:					
Government Savings Bank- Treasury Bills	70,000	• •			
Government Savings Bank- Treasury Bills Police Reward and Superannua- tion Fund-Debentures Clergy and School Estates Re-	70,000 0 £24,700 0				
Governmest Savings Bank- Treasury Bills Police Keward and Superannua- tion Fund-Debentures venue Fund-Debentures	ALC: NUMBER OF	0			
Governmest Savings Bank- Treasury Bills Police Reward and Superannua- tion Fund-Debentures Clergy and School Estates Re- venue Fund-Debentures Assurance, Fund, Real Property Act-Debentures	£24,700 ( 15,800 ( 6,300 (	0			
Governmest Savings Bank- Treasury Bills Police Reward and Superannua- tion Fund-Debentures Clergy and School Estates Re- venue Fund. Debentures . Assurance Fund, Real Property	£24,700 ( 15,800 ( 6,300 (	0	117,000		

CONFARATIVE Statement of Revenue and Receipts on account of the Consolidated Revenue Fund, the Loans' Account, the Loan Fund, Funded Stock Act, the Superannuation Repeal Fund, and the Trust Fund, during the quarters ended 30th June, 1872, and 50th June, 1873, respectively.

sune, iora, and som sune,			Advances to Public Office
Revenue or Receipt.	Soth June,	Quarter ended 3.th June,	Treasurer's Advance Ace
	1872.	1873,	Total othe
REVENUE PROPER.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	20 3 13	LOANS' ACCOUNT
Customs : Spirits	5 R. d. 90,046 15 0	£ 8. d.	Miscellancous Receipts
Wine	7,241 18 7	101,308 0 5	THE LOAN FUND, FU
Ale and Beer	12 107 12 9	9,980 3 3 14,564 17 5	BTOCK ACT.
Tobacco and Cigars	17,475 10 0 10,117 0 10	18,167 6 5	Amount advanced from th
Ten Coffee and Chicory	2,567 5 6	8,827 12 4	solidated Revenue Fund
Sugar and Molasses	2,567 5 6 12,264 9 1	2,598 0 7 16,087 11 9	CUTTER AND AND AND AND
Opium	1,673 1 11	1,408 5 3	SUPERANNUATION RI FUND.
Rice	1,667 13 0	1,434 10 0	Amount advanced from t
Dried Fruits	3,875 7 5	7,193 12 2	solidated Revenue Fund
Hops	062 6 8	641-2 3	TOTIOT PUNT
Ad Valorem	81,755 10 1	51,4:3 11 5	Civil Service Superan
Specific Duty, 34 Vic., No. 2	1 24,122 6 3	36,071 0 3	Fund, 27 Vic., No. 11
Bonded Warehouses, 20	Vic		Clergy and School Estates
No. 21 Rent of Goods in Que	1,151 17 8	1,290 13 6	Police Reward Fund
Warehouse s	33 11 10	105 10 7	Police Superannuation Ful Poundage
			Imperial Postage
NE TO DE CONTRACTO	217,251 16 9		Shipping Masters (Se Wages)
Murray River Customs	12,203 18 11	15,855 12 9	Wages)
	229,455 15 8	288,451 7 7	Revenue Suspense Account Money Orders
and the service service	1		Assurance Tand, Real P
Duty on Refined Sugar Molasses	and 4,116 13 4		Act
Moinesce	1. 1,110 10 9	6,208 6 8	Commissioners' Fund, Re
Duty on Spirits Distilled in	the		Bishopthorpe Estate Fu
Celony	1,159 0 0	2,717 4 7	Vie No. 11
			Vic., No. 11. Trust Moneys (20 Vic. No.
Gold : Duty on Gold		F 001 15 0	Over-Issues
Fees for Escortand Conveys	ance	5,291 17 0	Government Savings' Account
of Gold, &c	1,888 19 1	1,544 11 11	Railway Stores Account
	9.414 7 7		Gold-Fields Survey Fee Ac
	9,414 7 7	6,836 \$ 11	Treasurer's Advance Account
Mint Receipts	4,058 11 9	2,684 6 6	British Australian Tel Account
			Imperial Pension Fund Ac
Land Revenue : Land Sales	99,624 9 5	162,499 12 9	Imperial Pension Fund
Balances of Conditional 1		104,193 11 3	mission Account
chases	7,259 7 9	12,084 16 4	Sundry Deposits
Interest on Land Sales to (	Con-		Total Trust Fund Ree
ditional Purchasers Rent of Land, 1st Class Set	19,176 7 0	\$6,693 16 2	
Districts	2,096 1 6	1,391 3 1	The Barrier Sciences
Rent of Runs, 2nd Class Set	tled	*jack . c *	It is a matter
and Unsettled Districts	2.015 10 0	3,595 0 6	Bombala Times) that th
Assessment on Runs, 2nd C Settled and Unsettled Dist	ricts 280 0 0	140 0 0	Act is evaded in every
Fees on Transfer of Runs	318 0 0	140 0 0 328 0 0	simply to make a statute
Quit Rents	153 10 0	12 3 9	improvements on the las this he frequently dees a
Licenses to ent Timber, &c.	, on	and the second	the land agent then cert
Crown Lands	29,579 1 3	979 14 5	the facts set out in the
Mineral Leases Leases of Auriferons Lands		3,720 11 6 3,550 10 0	said land agent knows
Miners' Rights	3,007 0 0	2,027 10 0	luminary "the Man in
Business Licenses	375 0 0	244 0 0	selector is entitled to a
Fees on Preparation and En	irol-		purchased, but, in all
ment of Title Deeds	856 0 0	1,362 6 0	provements declared to
Miscellaneous		1,619 9 1	reveal the startling fact t
	174,281 1 6	220,238 6 4	apon the ground.

Hevenue or Receipt.	Quarter ended 30th June 1872.	Quarter ended Soth June, 1873.
ontributions under Discases in Sheep Act of 1866		£7,913 5 0
ces under Registration of Brands		266 19 0
ostage		28,195 11 7
commission on Money Orders	892 7 0	1,016 1 0
icenses : To Wholesale Spirit Dealers To Auctioneers	280 0 0 137 18 6	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
To Retail Fermented and Spirit- ueus Liquors	55,529 4 10	59,549 17 0
to Publicans To Distillers and Rectifiers To Hawkers and Pedlars To Pawnbrokers	625 0 0 15 0 0 385 6 5 120 0 6	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Colonial Wine, Cider, and Perry	97 0 0	110 0 0 93 0 0
All other Licenses	57,051 9 0	57 16 6
ces of Office : On Certificates of Naturalisa-	57,051 9 0	61,834 16 1
tion Registrar-General Prothenotary of Supreme Court	66 11 6 1,452 11 6 400 3 11	46 4 6 1,474 17 0 600 5 11
Master in Equity Curator of Intestate Estates Insolvent Courts	156 1 9 373 11 1	$     \begin{array}{ccccccccccccccccccccccccccccccccc$
Sheriff		418 1 6 141 13 7 854 12 6
Courts of Petty Sessions	762 1 11,	786 3 3
Water Pollee Court and Ship- ping Masters Steam Navigation Board Marine Board	611 12 9 22 0 0 253 0 6	788 16 9 267 10 0
Under Gold Fields Act (25 Vist.	900	90 0 0
No. 4) Slaughtering Fees, Globe Island Abattoir	430 5 6 36 8 6	455 4 9
Other Fees	5,994 16 10	15 15 4 6,227 17 8
Fines and Forfeitures :		
Sheriff Courts of Petty Sessions Water Police Court	10 0 0 996 9 2 152 6 0	63 18 10 1,281 10 7 237 3 0
Fer the Unauthorised Occupa- tion of Crown Lands Crown's Share of Seizures by the Departments of Customs		\$0 1 S
and Distilleries	#43.010	2 3 0
Estreated Property	29 2 5 0 10 0	76 5 6 45 12 10
	1,288 19 10	1,816 15 5
ents-Exclusive of Land : Tolls and Ferries Wharfs	7,520 7 11 1,312 13 0	6,372 8 0 951 0 0
Government Buildings and Fremises Glebe Island Abattoir	38 0 0	100
Glebe Island Bridge	335 16 8 206 0 0	303 15 0 271 13 4
	9,442 17 7	7,899 16 4
tamps adways: Tolls	a survey and	23,593 8 1 120,825 12 1
Miscellancous receipts	371 18 8	1,211 19 6
lectric Telegraph Receipts	94,338 14 8	122,037 11 7
search and service and search and service and search and s		
ilotage Rates, Harbour Dues, and Fees (22 Vic. No. 4, and 35 Vic. No. 7)	5,548 9 0	7,075 12 8
Newcastle	1,629 3 0 35 15 0 67 13 0	1,467 1 6 12 2 0
Wollengeng	67 13 0	42 18 0
nterest on City Debentures		5,000 0 0
fiscellaneous Receipts :	411 5 5	612 3 4
For the support of Patients in the Lunstic Asylums	156 15 4	214 5 8
Collections by the Government Printer Store Rent of Guppowder	876 4 2 178 14 6	974 9 7 285 9 5
Store Rent of Gunpowder For Work performed by Prisoners in Gaol	571 7 4	653 13 1
Fees on presenting Private Bills to Parliament, and on Letters of Registration	525 0 0	400 0 0
Assessment on Sugar Refinery For Docking Vessels, Fitzroy	1,516 7 4 250 0 0	1,405 2 6 250 0 0
Other Miscellaneous Receipts	62 4 9 84 12 4 5,963 14 8	482 5 9 395 14 2 2,590 14 0
Accrued Interest on Treasury Bills	81 2 6	
	10,614 11 4	8,267 17 1
Total Revenue Proper OTHER BECRIPTS. Advances Repaid : dvances to Public Ufficers and e	thers from the	822,186 11 8
Treasurer's Advance Account of dvances to Public Officers and c Treasurer's Advance Account of	1872, recovered	18,903 11 8 509 10 4
Total other Receip	ptø	£19,413 2 0
LOANS' ACCOUNT. disceilancous Receipts	669 18 0	
HE LOAN FUND, FUNDED STOCK ACT. mount advanced from the Con- solidated Revenue Fund		50,000 0 0
SUPERANNUATION REPEAL FUND.		

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### THE SYDNEY MAIL, SATURDAY, JULY 12, 1873.

of exact measure and weight." Alluding to the dis-covery of the spectroscope, the Professor remarks.-"The genius of these men compelled the rays of light imprisoned in the spectrum apparatus to make reve-lation of things in the world of stars which the curiosity of men had deemed for ever inaccessible."

Already had Kirchhoff ascertained what terrestrial elements were present in the sun's atmosphere and what were not; quite recently has it been discovered that there is even present in the sun a substance (Aclium) which hitherto has been unknown on the earth. Moreover, also the inner structure of the sun, the distribution of its incandescent liquid and gaseous parts, its luminous and coloured envelope, the nature of its spots and protuberances—all this is no longer a playground for fantastic imaginings, but the subject of exact research. Since the great eclipse of 1868 Lockyer and Janssen, Zollner Hugins, and Father Seechi have observed day after day, storms, whirl winds, fame-sheaves, outbursts of burning hydrogen, to the height of 20,000 miles;—thus has been developed an the physical and chemical conditions, even on the laws of the movements of the fixed and double stars, on nebulae and milky ways, on planets and centers, on Already had Kirchhoff ascertained what terrestrial on nebule and milky ways, on planets and comets, on zodiacal and northern fights, has spectrum analysis thrown its enlightening rays. Schiapanellh has solved the riddle of comets, and recognised the identity of their nature with that of the

swarms of shooting stars whose remarkable brillianey long ago made them universally known.

During the last quarter of a century, the history of the formation of our earth has assumed a new aspect. When Humboldt's "Cosmos" appeared, the opinion prevailed that our globe, once a globe of liquid fire, became covered with a grust of congealed scorie,

- Nature, Vol. VII., p. 137.

teaching of history. When we perceive the flash of an electric spark, we certainly do not take it for a bolt darted by the revengeful Jupiter; and as the vault of heaven is resolved into air and light, so also must the Olympus be shattered which was built thereon. But the idea of the true, the beautiful, and the good remain unshaken. They have been all the mere firmly established; for they have been all the inform the order of the universe, and from the mind of man himself." teaching of history. When we perceive the

Before concluding, I would like to say a few words about education in Germany, because it is the opinion of the English reviewer that everything is so much better managed in the new Imperial country. He may be right as regards those classes who can pay for the higher kind of education; but as regards the lower orders, I take the following from a scholastic German periodical :--" The larger portion of the Berlin school boys have not the slightest idea about Nature. 2000 children, questioned by 34 teachers, gave propor-tionately the following result : Of 1000 children only 777 had an idea of the rainbow, only 632 had seen a potato field, only 602 knew what was meant by a butterfly, 538 had seen the glow of the sky at sunset, and only 462 actually observed the setting of the sun; 460 knew what a meadow is like, 406 had an idea of a wheat field, only 367 has ever seen a flock of sheep, § 364 knew a forest, 264 knew what an oak Before concluding, I would like to say a few words

The Ceratodus is a striking example of this statement.
 Thave found traces of man in the Breecis eaves of Wellington. Part of the erown of a molar tooth in a fossil state like the surrounding remains of estinct manmais. The same block contained teeth of Thylacolco and Diprotodon.-G. K.
 Thad not seen these remarks when I wrote the last paper on "New Creations," in No. 679 of the Sydney Mail, and was not aware of the extent to which the transmutation of species and been accepted by scientific me everywhere.
 There is plenty of opportinuity to acquire knowledge in New Secution will have advantage of the liberal offer of the Government, and come out to this colony.

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of notoriety (observes the the improvement clause of the Land ry possible manner; the selector has the copy declaration that he has made and to the value of \$1 per acre, and altogether irrespective of the truth; ritifies that, to the best of his belief, e declaration are true, and of this the s aboutit as much as that celebrated in the Moon." This being done, the a grant of the land conditionally 1 probability, a scrutiny of the im-to be of the statutory value would t that not one-fourth had been placed

## National Library of Australia

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