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Contributors

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P. C. 11

Index B. 302

The O.S. REVIEW

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The Organisation Society,

(FOUNDED 1912)

15-16, BUCKINGHAM STREET, ADELPHI, W.C.

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ORIGIN OF THE SOCIETY.

The Organisation Society owes its existence to the formulation of a new Science—that of Organisation. The Science of Organisation was invented by the founder and Life President of the Organisation Society—Mr. Marshall Bruce Williams.

PRINCIPLES OF THE SCIENCE.

The Science of Organisation is based on the Axiom that "Society is an Extension of the Individual," and on three Principles: of Degree, of a Universal Duality, and of the Line of Least Resistance.

OBJECTS OF THE SOCIETY.

To propound and explain the Science of Organisation, to teach its principles, and advocate their application.

To further the objects of the Society a working and *Research Centre* has been established in London, from which Charts and Books, illustrating the Universal application of the Science, are published.

From the London centre, *lectures*, illustrated by Charts and Diagrams, are arranged for at home and abroad.

A *JOURNAL* is published to keep the public in touch with the development of the Science.

The foundation of a *CENTRAL COLLEGE* is in contemplation, for the purpose of training Students in the application of the Science to Educational, Social and International problems.

The value of a large body of Expert Organisers at the service of the State and private Enterprises will be obvious to all.

The training of such a body of Experts implies, however, an expense which subscriptions of a guinea a year cannot meet.

The Powerful aid of Private Donations and Government Grants alone can bring forth the full social value of the work of the Organisation Society and its aim of maintaining Social Order and Progress.

MEMBERSHIP AND SUBSCRIPTIONS.

Members: Membership is open to all men and women interested in the Science of Organisation.

Associates: Men and women are admitted as Associates, but are not entitled to vote or hold an office.

The subscription of each Member shall not be less than one guinea per annum, and for each Associate not less than 10/6 per annum, due on the first day of January.

Each Member and Associate shall be entitled to a copy of the Journal of the Society.



The O.S. Review

The Journal of the Organisation Society.

Vol. 1. No. 4.

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CONTENTS.

	PAGE.
LEADER—THE CENTRAL PARTY	65
GENESIS AND OBJECTIVE OF THE SCIENCE OF ORGANISATION	
EXFOLIATION (VERSE)	68
THE SPIRAL LAW IN NATURE—SYMBOLIC DRAWING	72
THE STRATEGY OF NATURE	73
THE MAPPING OUT OF HUMAN KNOWLEDGE	74
INDIAN PHILOSOPHY IN THE LIGHT OF THE SCIENCE OF ORGANISATION	83
PERSONAL FAITH AND THE SCIENCE OF ORGANISATION	90
GOETHE, A DUAL ANALYSIS	92
THE BRITISH LABOUR MOVEMENT, 1813-1913	94
BRITAIN'S PREROGATIVE	98
A SONG OF THE FORGE	101
PROPORTIONAL REPRESENTATION	103
MOBILISATION CHART	104
THE PHYSICAL MEASUREMENTS OF RECRUITS	106
THE SCIENCE OF ORGANISATION AND PUBLIC HEALTH	107
ROADS ORGANISATION SUPPLEMENT.	
MEMORANDUM IN ROADS ORGANISATION	108
DIAGRAMS: ROADS AUTHORITIES OF GREAT BRITAIN	

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Editorial
Committee

MARSHALL BRUCE WILLIAMS.
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IN our last Number we pointed out that a Middle Party can only arise in this country either around a strong central figure or as a result of the re-statement of the permanent Principles of Government, and we indicated what we believe,—that the strong central figure will not be due until those Principles have been formulated, since the intellectual statement of a problem must precede its solution.

Instances in history of this order are numerous enough. Puritan doctrines preceded for many years the appearance of Oliver Cromwell as a dominant political figure; the doctrines of Rousseau preceded Robespierre, who constituted himself the apostle of their fulfilment; the doctrines of Socialism again in the modern world preceded the appearance of the more important practical leaders; or again, the principle of "No

Taxation without Representation" preceded by some years the appearance of Washington.

Theory, in short, precedes Practice. If the fundamental Principles of Statesmanship, Organisation, Order, embodied in the Science of Organisation are to be applied to this country politically, by a Middle party or a Centre Party or a Party under any other name, so long as the best men of the country are in it;—what are the possibilities of the early formation of such a Party?

First of all we have to consider the fact that most of the men in politics now are already committed in life. Between 30 and 40, men begin to see their way, and to realise what prizes will be within their reach if they follow on the lines they have finally drifted into or selected. Their minds also have become filled with a body of doctrines or shibboleths or party phrases, which give them

some kind of an intellectual outfit added to their practical aims. They have also identified themselves in the course of their career with certain groups of men, from whom in case they changed their intellectual outlook they would probably have to separate. Some men are married and some have children; they have, in fact, to use Bacon's language, given so many "hostages to fortune," that they dare not change their course unless it holds out immediate advantages, or prospective advantages of such importance that they would feel justified in committing themselves to a new policy.

Now, the men who can surrender a present advantage actually or in the near future for a distant one, even where that advantage is a private one, and therefore has selfish motives on its side, are few; but when a change is required in order to bring about public advantages, rare indeed are the men who can be counted upon. If then the men who have given "hostages to fortune" cannot take a new road in politics, we must rely evidently upon those who have not yet given hostages to fortune, that is, upon the young. Youth is the age of enterprise. Even the average man who is going to settle into a dull citizen and tread the beaten routine of life and society has in his youth moments of inspiration and a desire to cut his own course in life, and take up with new things. In fact, in the peculiar age in which we live,—a period of the greatest discontent and unrest, when every generation moves forward a step in argument—the whole of the young generation may be said to be more or less inclined to start life on new enterprises. They carry no impediments and have given no hostages, and they live in an age of reform.

What bearing has this upon the Middle or Centre Party in politics? It surely has this bearing; that we should be optimists indeed if we thought that a National Party or a Middle Party or a Centre Party—to give it various names one hears—could be formed out of the present Members of the House of Commons if we make it a condition of such a Party that it should accept the data of the Organisation Society as a basis for legislation, or that it should tackle the problems of the day in the light of the Principles of Organisation. A Coalition of the heads of the present Parties would not mean a Middle Party in the sense in which we speak at all, and it is

doubtful if it would be much improvement on the present Parties. What are the advantages then which the Science of Organisation holds out to the young? The main one, in the writer's opinion, is that the Science of Organisation trains and disciplines the mind. And in addition to this, the very Method which organises, trains and disciplines the mind, organises, trains and disciplines the facts of those problems upon which the mind is to be brought to bear.

Now, all observers of life to-day must be aware that half the force, if not more, of the youth of the country is being lost because men's minds are in such a chaotic state. It is impossible to get one idea from Tolstoi, one from Goethe, one from Emerson, one from the Socialists, one from the Syndicalists, one from the Tories, etc., etc., without landing the mind in a state of profound muddle, and a man whose mind is in a state of muddle and confusion, with cross-lights thrown on it from every direction, is a man with no force or energy. Youth wants a synthetic survey of life to work from. It is only later on in life that, backed with a wide experience, men are able to hold apparently contradictory views of life and still retain their power of action. Constant association of diverse ideas has rubbed off the corners of each and enabled them to make a fairly harmonious family, just as a dozen men marooned on an island must learn to live together or else kill each other off. But the mind of Youth wants an inspiration and an aim. It is quite prepared to go a long journey, it will walk from London to Manchester with the greatest energy in the world, but it cannot walk from London to Manchester and from London to Southampton at the same time; it wants a definite goal setting before it.

Men in general all want forms into which to pour their ideas. If we want to drink some milk and we pour it out of a jug into a glass, the reason we are successful in getting the milk into our system is that we have a glass to pour it into,—a rigid form. If we attempt to pour it from the jug without a form to put it into, the milk is lost. The energy of youth and manhood alike, but the energy of youth in particular—since the whole virtue of youth is its unexploited energy—all require a mental form into which the contents of our modern encyclopædias, newspapers and experience of all kind can be poured, and those forms the

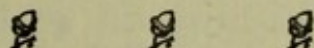
Science of Organisation, in its charts and diagrams, etc., provides. Nor is this an empty statement. Anyone who wishes to know the truth of this has only to enquire of some of the men now at work in the offices of the Organisation Society whether the working out of a problem on the Principles of the Science of Organisation has not steadied, organised and disciplined their minds, and at the same time that it has given them a broader view of every problem they have had to handle, and in particular shown them, what youth or man-hood is so very difficult to persuade, how extremely little it knows on any problem considered by their own mind alone.

The Inventor of the Science of Organisation believes, in fact, that the mental training given by the use of the Science is infinitely its most important power, as if we train the minds of men, we shall have no difficulty in bringing the world itself gradually into order, by enabling us to meet each problem as it arises in a scientific, practical and philosophic spirit.

If, then, we wish in this country to have a Middle Party based upon a thorough analysis of the facts we have to legislate upon—whether they be Local or Imperial problems—we must have the minds of the young on our side, and it is the young who will give the driving force to create such a Party.

In sympathy and active co-operation, however, with the younger generation must be those few who can always be found in every party who are prepared to link their interests and to adopt the causes of the next phase of political life which is due from the circumstances of the day. The experience and the practical knowledge of the world which these men possess would be a sufficient guide to the otherwise perhaps too optimistic ideals of the young and untrained mind.

A movement, in short, must be created by a sentiment of idealism based upon the practical facts of the world before the important political leaders can be found. The tendency of the day is rather towards public ends than private, at least, in the sense that the 19th Century was upon the whole devoted to private ends. There is a feeling that Social Order can only be brought about by an appeal to the higher patriotism which has governed men at various periods in history. Such a call is only made when society has got into a state of disorder because the men who by nature and instinct can work for public ends at the sacrifice of their private ambition, must always be few, far too few, to create a political party. It is only under the pressure of circumstances that the average mind of men can be without violence raised to a broader outlook on life. All the signs of the day are favourable to a new, wider survey of our problems. "Home-staying youths have home-staying wits," according to Shakespeare, and it is the young and middle-aged men of England who have not been outside of England, or at the utmost have not been beyond the hotels of Europe, who are the danger of the day, because they take a narrow and conventional survey of the problems before us. Every Canadian, Australian, South Afrikaner, United States man, Anglo-Indian, etc., agrees that England is parochial in her views, and does not realise the immensity of the problems that she, as the legitimate leader of Europe, will have to face, and it is the young men now leaving the Universities and just entering life, who have not given hostages to fortune, who have not attached themselves to a Party, who have not yet finally framed their intellectual methods, who are full of the vague aspiration of the day for public service,—who must constitute the main force before a real National Party can arise.



Reform first attracts *talent* and then *character*. If it cannot attract the latter there is something wrong with the reform.

Politicians accentuate, statesmen alone can relieve, the tension caused by the existence of vast inequalities of wealth and poverty in a state.

THE GENESIS AND OBJECTIVE OF THE SCIENCE OF ORGANISATION.

By MARSHALL BRUCE-WILLIAMS.

A statement of the aims and objects of the Science of Organisation must necessarily be a partly biographical account of the aims of the Inventor, as the invention is naturally the result of his temperament and outlook on life.

Many varying accounts might be given of the Inventor's aims, but on the whole a broad Uniformity would be found underlying all these. It is an important thing, in the writer's opinion, as to what particular age the Artist is born in. I use the word "Artist" here because, fundamentally, I believe that the qualities necessary to evolve a purely objective Philosophy and Science like that of Organisation are those of the Artist. There are, of course, in all times plenty of men about in the world with a philosophic and artistic temperament and outlook, but it is only very rarely that there is any problem of first-class importance which requires their particular kind of brain to put it in order. Goethe illustrated this when he said that there are plenty of good heads, but there are very few inheritances, and he instances Luther, who inherited the Reformation movement. We can, however, put the case in still simpler form. There is no General famous in the world's history who did not inherit some great conflict between peoples, and yet one is thoroughly aware that there are at all times plenty of good Generals in the world waiting, too often in vain—from their point of view at least—for a war which will bring out their qualities.

At the present moment in Europe no movement is more important than that of Social Reform. Society is in a general state of drift; old values and standards of life which have lost their vitality are crumbling in every direction, and new ones are only very slowly emerging as the result of life under modern conditions. To give an instance. The Industrial Leader of to-day, partaking necessarily, more or less, of the spirit of Reform which is at work in the world, is exhibiting, particularly in the case of Model Employers, all those characteristics which were required by the Leaders of the State in feudal times. An

insight into Organisation, a profound knowledge of human nature, a careful regard for the welfare of those who are governed, a sense of the proper relation between the War Leader and the State, a readiness to serve the country, a high standard of honour and a full acceptance of the spirit of responsibility, all the qualities which went to make up a disciplined and orderly State or Feudal Fief, and which were required when the unit was a Soldier, are now equally required when the unit is an Industrial worker.

What was the fundamental conception of Feudalism? Was it not that there was a well-understood relation between the Individual as Priest, Soldier or Industrial, the State or Society, and the Cosmos without, that its arrangement of Heaven, Hell and Purgatory, its hierarchy of angels, etc., were believed to fit every member of Society into his or her place? Since then a vast change has taken place in Man's conception of Nature. Laws that are at work in the human being are found to be at work also in Society and the Cosmos. It is found that these laws are perfectly adamant in their operation, and it is realised that if we can get an accurate knowledge of these vast Cosmical laws as they work through Society to the Individual, we shall learn eventually to discipline the Individual, to bring Order into Society, and to have, at any rate, a fundamental Uniformity of conception once more of Creation itself.

The most popular shibboleth in the world of Reform is Socialism, and it always seemed to the writer that the Socialist did not go back far enough for his authority, that he had not got the Cosmical law behind his Social law, that the whole outlook of the Socialist was lacking in philosophy and did not carry sufficient weight of authority with it. It was part, in fact—and only part—of the immense network of modern life. It seemed to the writer that the defects of Society in all ages must unquestionably be due to defects in its philosophy; that if Buddhism or any other religion had been absolutely correct

it must have long ago produced a lasting Order in Society, and, as the natural deduction of such an Order, a disciplined man and woman.

To put it briefly,—turning over these ideas, he finally came to the conclusion that if we could get at three or four permanent Principles which govern all civilisations, appear in all religions, and which are immutable laws of all growth in Nature, we should get the Order we all desire. The result of constantly digesting these ideas was "The Strategy of Nature," which appears in this Review, and contains a restatement of that fundamental Principle of the Duality of all life which is inherent in all phenomena. If carefully read, it will be seen that the whole of the Science of Organisation is contained in "The Strategy of Nature,"—the Duality, the Line of Least Resistance, the Principle of Degree, and the position that all that we know of Nature is based upon Man's natural senses and faculties.

It only required a mathematical formulation or statement of these Principles and the Axiom to create a Science,—a Science in the true sense of the word; that is to say, a Science based upon units of measurement and clear definitions. Behind this Science lies a philosophic conception of life entirely modern, and the proof of the soundness of the philosophy lies in the practical application of the Science to the details of Society. If we find that when applied the Principles of the Science bring Order into any subject treated by them, it is a fair assumption, if not an absolute deduction, that the philosophic outlook at the back of the Science is at least correct as far as it goes.

What the world requires is a broad, basic Uniformity upon which it may rear any particular variation in the form of Belief, reasonable or otherwise, which the circumstances of the Individual and Society require. "The Strategy of Nature" should therefore provide a basic Uniformity, a Common Approach, for the various religions of the world. It extends mainly the area of our speculation along the lines of Natural law, and, if it does nothing more, provides as it were a signboard indicating the right organic direction in which the speculative scientific brains of the world should move.

We now come to the question, "What is the practical aim of the philosophy of the Science of Organisation?" It is, obviously,

to bring Order into the world. The simplest definition of "Order" that the writer knows is, "A place for everything, and everything in its place." This is the condition of every organism. The stomach is in its place, the heart is in its place, the brain is in its place, etc. If, then, we ask what will be the state of Society when in Order, one of the numerous answers which might be given would surely be that the Individual man or woman will be in that place of Society to which their natural and acquired gifts and educational qualifications fitted them; that if a man is essentially by type a Soldier, he should be found in his place in the Defence forces of his country; that if a man is by nature a Priest, he should be found in the Religious order of the country; that if a man is by nature a Craftsman, he should be found in the Industries of the country; and in every case the institution of which he formed a unit should afford him full facilities for rising within it to any degree of authority or influence to which his character and ability would justify him in aspiring.

This raises the question of how are we to ascertain the natural abilities of the Individual, and to this question the writer believes there can be only one reply, and that is, that we must continue to invent and perfect instruments which will enable us to get an accurate report on individual organisms; and it was in order to collect all known instruments that the writer founded the Andrological Institute, so that, as the 20th Century advances, we may see appointed to the Schools and Universities of the country, not merely Psychological experts (as is now becoming the fashion), but Andrological experts—experts who can not only report with numerous instruments upon the qualities, mental or physical, of every individual boy or girl, but can form correct deductions from the correlated data which result. Upon this raw material will then be turned what in the course of time must become one of the greatest Arts in the world, the Art of Education,—an Art only now struggling into birth. The future place which every boy or girl will occupy in Society will then gradually approximate to his or her natural acquirements and abilities. It will, of course, take the full period of the 20th Century to bring this new survey of men into order, but when it has been brought into order, we shall find that it has done much

towards solving the vast and complicated question of which individuals are fittest to survive and carry forward civilisation.

It will perhaps by now be plain what immense value the writer attaches, on practical grounds, to his assumption (the Axiom of the Science of Organisation) of a Standardised Individual, assumed to measure 100 in every function, organ and faculty, because this provides us an Ideal Standard, man or woman, by which all other men and women may eventually come to be graded, so that, as Napoleon in one of his flashes of insight said, "The man who should be in the Cabinet should not be found at the Plough, and the man who should be at the Plough should not be found in the Cabinet."

But this Axiom does not stand alone. It is only the centre around which the Science of Organisation as a mode of thought revolves. We have given numerous instances of the Science of Organisation in earlier numbers of the "O.S. Review," and it will be sufficient if we assume that it is an organised body of thought which disciplines the mind of the student and practical worker, and enables him to arrange the various data of any problem in such a manner that first a flood of light is thrown on the problem (which Bacon demands as the first necessity of what he calls an "Intellectual Aid"), and then rich and fruitful results will be obtained.

If we are now to ask ourselves what is the practical aid rendered by the Science of Organisation, apart from solving Social problems, we must first consider what particular place in Society the Scientist occupies to-day. To some extent it must be said that he is cut off from the general world of culture. He sees part of his material absorbed by the State Religions, he sees part absorbed by the Municipal Reformer, he sees part absorbed by the Mechanical and Business world; in every direction he provides reliable data and information which everybody must include in their system of thought or philosophy, or adopt in their practice. This must probably always be the position occupied by the Specialist in knowledge, but it is not the final position to be occupied by a Science of Sciences such as the Science of Organisation. That necessarily is the net result, as it were, of the culture, the philosophy, the science, the facts of the practical and intellectual world of to-day.

When we are considering any problem, we

have to consider its Past, Present and our Objective—its Future. There are pros and cons as to any line of policy we should adopt to attain that Future, and there is a variation in degrees of merit in all these reasons *for* and *against* any particular line of policy. The Science of Organisation enables us to map out any problem and perform all these mental operations slowly, carefully and methodically, instead of hurriedly and with great difficulty or slowly and patiently with great difficulty, in ordinary life. It will thus simplify our approach to all the problems of life. First of all, as we have said, it does this by training and disciplining the mind, and secondly, by arranging the data of the problem upon which the mind is to be brought to bear.

This is in the nature of being a school of philosophy, of thought or practice, according to the point of view at which we approach the work as a whole, and we think that it is inevitable that special Colleges must arise in order to teach this way of approaching our problems. There are only two courses to pursue. Either Chairs must be appointed at the existing Colleges and Universities to teach the Science, or else a special College must be formed in each country. The reason why we believe this latter must be the course ultimately to pursue is, that every country to-day needs a Centre of Intellectual Authority. It was these Centres, both of the Church and of the State, which gave to Feudalism their functional activity and order. Such Centres every great Statesman has always sought to found, and it is the absence of such Centres which constitutes the weakness of every civilised country to-day; but in no country is there such an absence of any Centre of Authority as in England and the more democratic countries of the West of Europe and the States.

What would be the value of such Centres? Surely it would be the perfection, first of all, of a general training in sound thinking of students; and, secondly, in the production in every department of life of trained rulers, of experts in Government and Industry.

The Ruler must always see far ahead of the immediate problem, but all the history of the world shows us he is unable to persuade the ordinary man that his policy is sound. Only the weight of a great name and great services has, in exceptional circumstances, enabled a man with a great policy to stay long enough

to mature it to its full results. If, however, there was in every country a college specially devoted to the Training of Rulers, whether in Industry, Politics or Social matters, we would find that these men occupied an analogous position in Social opinion to those trained soldiers whom we retain as long as they are active and energetic in positions of authority in the Army,—positions to which their special training has enabled them by slow degrees to attain.

The writer sounds this note of Trained Rulers because he believes this to be a more important problem than the Mapping-Out of Human Knowledge, now being done by the Organisation Society. More important than the sound Organisation of this or that Industry, more important than any problem which the Organisation Society is dealing with or may be called upon to deal with by the public, is this question of how we are to train men to Rule, whether in Industry or Politics.

The vast activities of the modern world have for some time since absorbed all those who possess a natural gift of Government. There is a demand now being made upon men who are quite unqualified by nature to exercise authority and responsibility in business, politics, etc., to which they cannot possibly respond. However, if we can raise (as the teaching of the Science of Organisation will enable us to do) the general level of the ability of men to Govern, to Organise, to Rule, then in so doing we shall have performed as great a practical service to mankind as was rendered by the mathematicians when they formulated the Science of Mathematics.

But if the Science of Organisation provides us not only with a method of approach to the problems of the day, but also with a means of training the coming generation to meet the far vaster problems of to-morrow, surely it is, when its claims and methods have been examined, a piece of intellectual work which deserves encouragement and support from the community of to-day. But the Intellectuals can no more control affairs or guide them than can any other type of man required by the many-sided activities of the workaday world. It is by the assistance of the Business man, the Financier, the Politician, the Educator, the Defence man, the Church, that this can be done.

As the Science of Mathematics applies to the work of *all* men, directly or indirectly, so

a Science of Organisation can be of assistance to *all* men, directly or indirectly. That we live in revolutionary times everybody admits; that our standards of value, our shibboleths of life, our very phrases of conversation, as much as our Principles of Government are in the melting pot, all admit. Speaking from the immediately National point of view, in this country there is practically no authority. The Crown has been shedding its power for centuries; the House of Lords has just been shorn of its power; the House of Commons is a single-chamber despotism, based upon the fluctuations of a half-educated Democracy—a single assembly, ripe, as time goes on, in the opinion of many, for a new Oliver Cromwell. The top of the State, that is to say, has neither authority to legislate nor insight to act, nor machinery adapted to its acting if it had the insight. The bottom of the State is rife with Socialism, Syndicalism and every other *ism* that appears at such times as the present. Yet everyone feels that, in spite of this temporary condition, the world is progressing in a very real sense, that the 20th Century is going to solve these problems of Social Order, that the most diverse races are coming together and that men have in some way to learn how to live together for Industry, Science and Progress. And yet we have this disorder, and there is this demand on the one hand for a new Oliver Cromwell, and on the other hand for the rigid application of Socialism, Syndicalism, etc.

Does not the Science of Organisation present a *via media*—a middle way—between these two extremes? If no such middle way can be found, then we shall drift to an Oliver Cromwell Order, or into a vast revolutionary movement, the culmination of which can only be the Soldier.

In the meantime, of all the movements of the day which will enable us, not only to begin grappling with the problems of the day, but to train the minds of the young to grapple with those of to-morrow, we believe the movement slowly growing around this new Science to be infinitely the most important. As the Trained Artist is greater than the Untrained Artist, as the Trained Mathematician is greater than the Untrained Mathematician, as the Trained Soldier is greater than the Untrained Soldier, so we believe the Trained Ruler and Organiser is greater than the Untrained, however great the natural capacity of the latter may be.

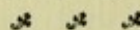
EXFOLIATION

THE THEME OF THE STRATEGY OF NATURE.

Many-hived peoples that dwell, on the edge of a planet
new,
How will ye face the problems, that rise from the deep
on your view,
Safeguard the rights of the Many, guardian the dues of
the Few,
Bind the wide planet in One, Science and Thought
and Art,
Give to each part of the One, its measure of hand and
heart,
Till it blaze in the infinite sun, harmonised, Whole and
Part?



Slow mastering Science shapes the sphere's face turned
to the stars;
Slowly we come of age, stifling our ancient wars;
Slowly the planet is cut, with edge of the bright plough's
scars;
Out of her furrows they rise, the endless rows of the
wheat;
Out of her bowels they pass, the first dead forms of her
heat;
Out of her teeming loins, springs the man to his feet!



Ripe in its season, each sees its season pass;
The crib for the child asleep and the savage content
with the glass;
The spade for the sod, but the scythe, for the ripened
and growing grass!
Gas and monster and Man, Man and the man to be;
The spiral paths we climb and the goal we may not see;
The planets powdered dust and the after mystery.



Scaled is Nature, decreed, fashioned in values strange;
Shifting, subtle and sweet, a vision of plastic change;
Strong and stern and swift, infinite in her range;
Praising the strong she feeds, banning the weak and frail;
Slaying the strong she cherished, making the weak
prevail;
Secret, deep and secure, though millions of planets fail.

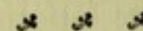


Out of One, each one began, to stand in its place in
degree;
See that degrees are kept, that faithful to them ye be;
Out of a mob transform, by worth, the world ye see;
The green earth rolls beneath, see that ye name and
bless;
The helpless beasts pass by, see that ye slay or caress;
The strong are thine to cherish, see that their sweet ye
press.

On a new world you gaze, as it lifts itself under your feet;
In a new world you turn, strong and subtle and sweet;
O'er a new world you reign, see that you reign complete
Leave not alone the Ruler, Man, unruled to be;
Build him with spacious plan, making his impulse free;
Swift to seize on the good, death to what should not be.



Fashion the plastic clay with hands that grow in their
skill;
Mould the earth's new shapes with splendour of chastened
will;
Grind sharp the spur to good and blunt the edge of ill;
Furrow the face of Nature with keen-edged thought of
man;
Study the end he works to, ponder the race he ran;
Out of the winding threads, spin the unfolding plan.



Infinite, spiral, upward, the seeded growths of time,
Print with their tender feet the large, calm, seas sublime
Delicate, press by press, the buds burst through the
rime;
Out of the Inorganic, the Organic vision grows;
File and Captain and Chief, each the endless labour
knows,
But rank by rank, the march of the measureless legion
flows.



Larger the growths that follow, mightier men to be
Must master the planet riddles: the Gorgons we may
not see!
But each is great as the greatest, if great in his degree,
Insect of coral reef or growing god of the sphere,
Microbe-captain or Master of all that on earth doth
peer:
The labour of each shall sweeten and make the struggle
clear.



Out of the ether born, the planets flashed and came!
Back to the ether worn, the planets pass again;
Dust to dust, the scorn of Nature's teeming frame.
But out of the ether builded, facultied, formed and
wrought,
Unfolds again the ether in forms by the ether sought;
On spirals infinite rises a vision through ether caught.

MARSHALL BRUCE-WILLIAMS.

THE SPIRAL LAW IN NATURE AND



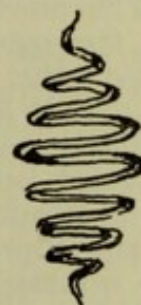
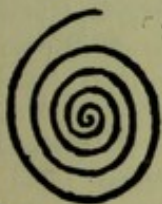
THE RISE OF SPIRALS OF IN-
TER PLANETARY BIOLOGIC
LIFE FROM THE LAST EN-
VIRONMENT OF THE PLANET.



BOTANIC.



NEBULAR



ZOOLOGICAL



AQUATIC.

THE STRATEGY OF NATURE.

By MARSHALL BRUCE-WILLIAMS.

§1. THE PSYCHOLOGICAL BASE.

(a)—NATURE AS ABSOLUTE.

UNFATHOMABLE and Spiritual, the Absolute in Nature, conceals itself in Nature. Beyond space, time; freewill, destiny; life, death; the Identity and Equality of all things, lies here concealed from all things. Question and answer are vain, because question and answer, as terms of Form, can know nothing of that Formless Absolute out of which they issue.

An infinite Presence, permeating all things, felt and apprehensible by the sense, in the elemental and cosmic sympathies of all, speaks alone to all, of the Formless source of all. The moving Cosmos and the vibrant atom; the seeding flower and the massed mountain; the Will of Man and the secret fail of that Will; all feel the pulse and impulse, the secret urge, of this Creative within all. Rooted and bound in this, they cannot escape it. Embracing and sustaining, it spurs action and apprehension; guides growth and decay; exfoliates in Function, Faculty, and Form of Being.

(b)—NATURE AS FORM.

Out of this Absolute in Nature issue the Forms of Nature. Of these we are one, and amid these reign all the contradictions of our being; the opposite terms of our duality; the extremes amid which we balance. Here we speak of good, evil; life, death; conscious, unconscious; god, man; design, chance; creation, decay; matter, spirit; freewill, destiny; love, hate. Here are the degrees of our aesthetic sense of beauty; the rivalries of intellect and sense; the contentions of truth, falsehood; morality, immorality; the ideal and real. Here we act, here we analyse action; here we grow, here we apprehend growth; here we design, here we perceive that master design which, including our design, prompts us to ask the why? whence? and whither? of our being *in* design.

(c)—THE IMPASSABLE BARRIER.

Between these two, the Formless Absolute,

and the Absolute as Form, a gulf is fixed, a boundary laid, that neither intellect nor sense may cross. The records of Man's vain attempts to make this crossing, the lifeless forms of his dead beliefs, fill with their ruins the unswept chambers of his mind; clog with their dust the pores of his fresh spiritual growth; hinder with their distinctions the vision of his spiritual identity and kinship with all things and the value, authority, estimation and reverence due to each thing, from its place in and proportion to all things.

The existence of this impassable gulf; of this barrier reef to the self-contained continent of the Absolute, is the keystone of our speculation in Nature; an axiom of our metaphysic, and a principle established, upon which our civilisation, arts, moralities, science and education must come to rest.

(d)—RECONCILIATION OF FORMLESS ABSOLUTE AND FORM.

Opposite as are these two aspects of Nature, their reconciliation lies in the metaphysic that reduces *all Forms* to degrees of sense perception, in time, space; good, evil; life, death; spirit, matter. All things are in perspective and degree, and the vision of all agrees with the Unity of all.

For the Forms of things are but the shaded outlines of our vision of things; the varying frontiers to sense of the invisible correlations of things; the dissolving edges of the fluid and solid of things; the sense divisions of the divisionless Absolute, that in the light of the Absolute disappear to no division.

"And like the baseless fabric of this vision,
The cloudcapt towers, the gorgeous palaces,
The solemn temples, the great globe itself;
Yea all which it inherit, shall dissolve,
And like this unsubstantial pageant faded,
Leave not a rack behind."

All is a vision; but Man, himself a vision, deals with visions on terms of equality. They are native to him and he to them. Of one constituent, element and being, he moves with them and they with him, on a like path and to

a similar destiny. The solid granite passes and the fluid heavens pass, but the granite serves his time and the heavens last his growth.

Solid are his procreative loves and flesh cleavings; his fibres of tendrilled strength; his mountains throned on the sphere: fluid are his hopes, dreams, aspirations; his pulse and impulse of Nature; his energy of the creative within; but fluid or solid they serve. All is in degree, but the degrees are real. All is solid for the moment, all is fluid for eternity. What serves for growth, *serves* for growth. What is true for the Hour, *is* true for the Hour. What gives the sense of reality, *gives* reality.

"What's past and what's to come, is strewed
with husks,
And formless ruin of oblivion;
But in this extant moment, faith and troth,
Strained purely from all hollow bias drawing,
Bid us with most divine integrity,
From heart of very heart, 'in Nature'
welcome."

Into the Incomprehensible and Formless Absolute, all the fluid vision of life melts; all degrees are lifted. Yet in the practical and stern world around, it is upon these degrees we rest. Balanced upon them in the firm equilibrium of Nature, we essay the heights of the Ideal; feel the ground of the Real ring solid beneath our feet; fuse Ideal and Real, in the arts of our advance and conquest, up their scale.

On these we build our civilisations, sciences, and refinements. Amid these we grade in proportion of faculty and sense, with the rival forms amid which we strive. From them we pass as we cease from the world of Form; as the fluid vision of our design in Form melts. The terms that once served us, serve us then no longer. It may have been good, or it may have been evil, with us, amid those degrees and their terms of Form, but in that Formless and Unconditioned Absolute, to which we pass at death, it can be neither good nor evil.

The frame of our mortality melting, the terms of our mortality cease. We ask not nor give in reply. Desire fails, apprehension passes, and memory is not.

§ 2. EQUALITY OF ALL FORMS AS ABSOLUTE.

As INCOMPREHENSIBLE and Formless Absolute, all the Forms of Nature have a common Spiritual Equality.

Upon this law is founded that inspiration of the Creative within Man, which prompts him to name himself God, even while the flesh and frailty of Form is about him.

To this law also he appeals for a foundation of his charity upon the earth. For perceiving the fusion of all things, he seeks amid the stern realities of the degrees of Nature, to melt down the harshness of those degrees and to mitigate the sternness of those realities, by an appeal to this law of the equality of all degrees and the fusion of all realities, in that which is beyond, both reality and degree.

Finding in his affections an image of that attraction which draws all together, without reference to parts or distinctions, he seeks, as the sun and the dew fall on the just and the unjust alike, to let fall the cloak of his charity and pity over the weak and helpless of the earth; to soften in his deeds of benevolence and affection the harsh divisions and distinctions of the earth; to frame in his laws, social and political, measures for the amelioration of the injustice and misery of the earth.

Upon this law of the Equality of all Forms as Absolute, is founded our theory of Democracy and the equal rights of all, as upon the balancing law of the Inequality of the Absolute in each Form, is based our theory of Aristocracy and the unequal reverence, title, authority, and consideration due to each Form.

§ 3. INEQUALITY OF THE ABSOLUTE IN EACH FORM.

FOR, if there is a Spiritual Equality of all the Forms of Nature, there is a fundamental, varied and practical difference, between the values of Form and Form, as they scale in the individual life, society, and the design of the Absolute in time and space.

Measured in terms of creative energy, as they exfoliate in faculty and sense or exceed in mass and subtlety, the Forms of Nature take

precedence, rank, authority, title, value, consideration, from the degrees in which they express that energy and gravitate to that design.

Upon this law of Inequality are founded the distractions and confusions of the earth, the pathos, tragedy and struggle for survival of the fittest upon the earth.

As in the light of the law of the Spiritual Equality of All, as Absolute, Cæsar levels with the idiot; the brute with the man; the criminal with the virtuous, and the spiritual with the material and common; so, in the light of the law of the Inequality of the Absolute in each Form, Cæsar speaks with more authority than the idiot; the man outscapes the brute; the virtuous are of more consideration than the criminal; and the spiritual draws with a greater power than the material.

Upon the one law are founded the divine attractions; the sympathies of a common nature that draw all men together in one bond upon the earth; upon the other are founded the mortal oppositions, the jealousies and hatreds, that divide man from man upon the earth.

As we appeal to the one law for the establishment of peace and goodwill upon the earth, so to the other we appeal for justification of our stern and ruthless slaughter among the creatures of the earth and the morality of our dominion and conquest over the earth.

As under the one we recognise the infinite variety, so under the other we recognise the rigid discipline, of Nature and her design.

As under the one we forgive, so under the other we slay, all that opposes our path through that design.

As the one law reconciles us to death, so the other equips us for life; for in the grave all are equal, all pass into the soundless deeps of the Formless Absolute; and in life all are unequal, in equipment, power, beauty and fitness of life, according as the creative ecstasy of Nature unfolds us, as the spring unfolds her sap, into the variety of flower, foliage and fruit.

Upon the law of Equality is founded the Idea of our right to personal happiness, and upon the law of Inequality is founded the Idea of our individual, social, and religious duty.

Each law is the check and counter-balance, complement, offset, sanative and restoring influence of the other. In the due and harmonious action of the two, conditioned as to their relative influence, by the time and circumstance of their action, lies the spiral line of least resistance of growth and exfoliation in individual man and society. Either the one or the other, unduly estimated and made the spring of legislation or conduct, is fatal in the long run to both society and the individual.

As the law of Equality, if pushed to an extreme of estimation or action, issues in anarchy and the immorality of weakness; so the law of Inequality, if pushed to a like extreme, issues in despotism and the immorality of violence.

The authority of each is derived from the same source, the Absolute, though from a different aspect of that source. All alike feel the conflict of the two, as to what they shall *accept* and what they shall *reject*. The claims of neither are admissible without the claims of the other. Each is involved in the design, and each involves the design.

§4. DEGREE IN NATURE.

THROUGHOUT the design of Nature in Form, Degree, sole lord of all, reigns supreme.

Over the vaster of these degrees, the birth and cooling of planets; the growth of species after species upon the planets; the rank and order of species with species upon the planets, Man has no control; but over the infinitely small degrees of his social and individual life; the fine issues of his conflict and circumstance; the shaping of his ideals out of the raw materials of the planet, Man has, through his science and art, some control.

On the orbits of the vast laws he is swept irresistibly to his doom, with the seasons and the magnitudes of his sphere. But while so swept, he, in common with all other species upon the planet, contrives to weave out of the complex web of the laws, a little nesting place of his own.

In the light of the vast degrees which organic life has climbed in the past, Man, who stands at the head of that climb to-day, appears but

the fitful gleam of the moment, the transitory expression of the war of faculty and sense with the changing environments of the sphere.

Plane by plane, spiral by spiral, degree by degree, this genius of the organic life of Nature, has passed from the gaseous and the unvoiced, the material, the dense and the simple, to the articulate, the spiritual, the moral, intellectual and complex. Casting abroad the fine net of its senses, it has secured and made foothold for itself in the fluid world without. Ever the past activities of its organs followed and made solid, in the law of heredity, the ground beneath its feet. For the conquest of each new environment, the climb of each ascending spiral of creative nature, the law of Inequality secured an aristocracy of the fit.

By these few fit the ascent of the next spiral was made. The remainder that failed to make this climb, became the members of a species passed and subject to the dominion of those who ascended.

In the light of this law there is no security that a new species may not arise from among men, superior to Man as he now is.

The art and practice of the handling of the great laws, is become the prerogative of conscious man. This art may work both ways. It may be seized on by the few who excel mankind to separate themselves still further from the species man, or it may be so handled by the common genius of Man, acting under the inspiration of the law of equality, that the entire species may be raised in the scale of being, and no degrees between man and man exist, so vast as to separate the species in two.

The action of the two laws is forever present in the strife. What the issue of their conflict may be, no man can altogether foresee.

§5. THE COMMON GENIUS OF THE ABSOLUTE AS FORM.

WITHIN each Form of Nature and through all the degrees of her being, a similar genius is in a varying manner exhibited. In Man, the most complex of these Forms, the organic faculties of his creative will obey the same laws as the gases and the inanimate.

The variation is in degree, not in kind. A new faculty in Man is a new working field of Nature open to him: a new sense is a revelation of fresh phenomena. Throughout the field of Form, the traces of this common genius, at work in all Forms, are everywhere apparent. The mathematics of Man are the mathematics; his dynamics, the dynamics; his strife, the strife, of the stars. In the colours of the minerals of the earth, are the colours of the sunset of the sky: in the build of the honey cell of the bee, is the form of the basalt when it shrinks: in the pull of the star and the star, is the attraction of man and man. If Man is artist, poet, mathematician; warrior, lawgiver, lover; breeder, sower, doomer; Nature too is all these. Her activities are his activities; her flowing lines of energy, his lines; her creative and many-sided genius, his genius.

Everywhere the one exfoliates what is already in the other inherent. Everywhere the one mirrors what the other contains. Everywhere the one seeks to become the epitome and likeness of the other.

Infinite as must be the sides of the one, to contain in calm and even working the established equilibrium of things, the other, facet by facet, overtakes this manysidedness. Subtle as are those mysterious powers of the Will, that we call hypnotic, clairvoyant, psychometric, powers that seem to pierce some of the more apparent and solid walls of Nature in our immediate time and space, they are but the faint image of those powers of the infinite Will that pierces all walls. For the completion in growth of this likeness, no mass is too dense to become fluid, no walls too solid to melt, no powers too subtle to become possessed of.

§6. THE EXFOLIATING DESTINY OF CONSCIOUS LIFE.

ASCENDING through the degrees of Nature, the seeding line of conscious life on the spheres, exfoliates on the spirals of least resistance, to the predestined end of the common genius of nature.

At the head of this conscious life on one planet, stands Man. In him Nature become

conscious, turns upon and surveys her accomplished work to date.

Syllabbling her accents in him, she seeks to plumb the mystery of that fathomless abyss from which, in him, she has arisen. Exploring in detail and in mass; generalising and particularising, she seeks through him, to find the cause of this her budding exfoliation and ecstasy of creation; the why? whence? and whither? of the ceaseless sweep of the spheres, and of the harassed and striving life that stirs upon their surfaces.

If from the small degrees in which Man rests in her, he sees no possible final answer to these problems; yet, in the language which those degrees and the common genius of Nature impose upon him, he sees that an approximate answer, trending to the true answer, is possible.

Vista by vista, the vast panorama of Nature unfolds before his analysis and deduction. Perceiving himself to be but an incident in the vast campaign of Nature, he learns to yield to the discipline of that campaign, the ready and willing obedience of his own dusty battlefields. The warfare for which he so willingly yields his life on the planets, is seen to be but a detail of that larger warfare, that covers the infinities of time and space, with the wreck of systems and galaxies. As a soldier so fighting, it is of little purport when or where he falls so long as his death contributes to the ultimate idea underlying the strife. Accepting the morals and discipline of that warfare, he learns to build his institutions and the life of the individual, on those morals and that discipline.

Though, caught in some eddy of the fluid physical cosmos, his planet perish and his labour become vain, he would yet in imagination outleap the foreseen catastrophe and compensate himself with the thought, that while details perished in the meet and conflict of the laws, yet the main stream of those laws secured and made inevitable the ultimate aim of the battlefield.

In the meantime, as the individual soldier has but little time or opportunity to watch the general course of the battle, can see but little of what is progressing, so Man, lost in the

details of his immediate conflict, fixes his attention mainly on himself alone.

Sweeping his eye backwards over the travelled courses of the planet, he sees the environments and the species that lie behind; gazing around, the infinite species that struggle to survive; ahead, out of these, but particularly out of himself, the summit of these, the species that must spring from those around.

Amid the infinite flux of Nature he sees an equilibrium for the moment established, and on that equilibrium he stands.

All is exfoliation, and of that exfoliation he is the breaking crest. Borne up for a moment on that crest, as it breaks for ever over the planetary world, he has scarce time to survey the universe around, ere he is plunged once more into the soundless deep from which he rose.

Yet if all is insecure in the individual, all is secure in the generations. As the live coral reef standing on its dead, at the meet of air and water, lips the open seas of the planet, so Man, secure in the toil of the dead, fast set in the accretions of the dead, faces the open waters of time and space.

All is exfoliation, and the exfoliation of to-day is the inheritance of to-morrow. In the train of this exfoliation comes dominion and power, and bending to the immediate aims of his conscious Will, the ends of the great laws where they meet and criss-cross in his time and space, he adds to and accomplishes that dominion and power. To the providence and foresight of Nature, who has secured him in these great laws, he adds the science and art of his own creative skill, utilising these laws. Where their infinite ends, meeting in the fields of his time and space, form that whirl of chance, disaster, pathos, humour, accident and tragedy, which constitutes the drama of life, he wields the compelling power of his ordered faculties, to make his way smooth and his path safe.

Against those rival forms of the common life that dispute with him in the struggle of the fittest, he sets the frail and unconquerable organs of his growing Will; against the giant mass of the planet, the action of his delicate

and apprehensive genius; against the impervious, indifferent and taciturn strata of the earth, the liveliness, vigour and activity of his organed and sensitive body.

Knowing all things fluid and transitory, he yet sees that the degrees of time serve for *his* time and of space for *his* space. His units of value and measurement, his instruments of experiment and analysis, his terms of division and inclusion, are for use only, but they serve for use. Taking these with him, he *descends* as easily and surely to the regions of the bacteria, the fields of etheric energy, light, heat, colour, sound, as he *ascends* to the realms of interplanetary space; the times, seasons, courses, weights, of the suns, and the nature and history of the climbing biology of planets born out of those suns.

Beneath the sweep of his organic and penetrating imagination, he begins to see the lines of a fluid and simple design evolve.

Out of the etheric and interplanetary fields, by as yet unknown laws of those fields, the nebulous masses arising pass into suns, suns give birth to planets and planets to satellites.

Upon the circling surfaces of these rinded and delicate spheres, the intricate and complex web of conscious life is woven. At the head of this conscious life on one planet he stands, measuring, weighing, analysing and acquiring confidence in all things.

If in the light of that infinite which he surveys, of that thronged field in which he strives, all things flash by as in a vision, the solid ground seems to melt beneath his feet, the forms of Nature depart and a new universe takes its place; yet in the light of those laws which sweep from end to end of the infinite, of the ceaseless action of their steady and unchanging genius, of the solid results which accrue in biology from their action, he sees that the fruit of his toil and strife is not lost, that it bears seed towards some vast and comprehensive design, which labours impartially from end to end of these infinities.

In this thought he finds his security. The purpose of Nature through him becomes his surety and safeguard. If his death as individual serve some good purpose of the

heavens, he willingly yields his life to that purpose. Based on the security of the great laws which have shaped him to that purpose, he learns to look with equanimity on the vast changes of the past and the equally vast changes of the future.

Discovering himself only just descended from the tree and the gas, weighted with the knowledge of his incompleteness, the narrowness and limitation of his nature, he yet sees, that subtle as were the laws which transformed the saurian from the gas and man from the saurian, it is by the continued operation of the same laws, that man as he is, will be transformed to those higher types which must spring from him.

Steadying his vision upon the magnitudes of Nature, he sees that degree by degree, atom by atom, cell by cell; planets cool, environments change, organs mould, form shifts, function deviates, faculty exfoliates and the organic batteries of the celled brain are built, in the future as in the past.

Slowly organic evolves from inorganic; quality from quantity; organ from mass; the conscious from unconscious; the future from the present.

Borne in the nursing arms of the great laws, he sees humanity pass from what it now is, to that which it shall be; the fit for ever surviving, heredity for ever accreting, environment for ever moulding, form, function and faculty for ever shifting, till it stands in the last planetary environment of all, on a sea-less and atmosphereless sphere, breathing the ether of interplanetary space, which sweeps the surfaces of that sphere, and preparing in the mysterious fortress of its biologic strength, armed with unknown powers of the slowly grown biologic will, to defy the auguries of time, take precedence and leave of the sheathing planet that has enfolded it, and pass to those larger fields of space and time, interplanetary in their sweep, etheric in their nature, which vary but in degree from those wherein the core of its enduring strength was built; the faculties of its unfolding being ripened.

Behind the mighty organisms thus slowly accreted through the environments of the sphere, that sphere fails slowly from its path in the heavens; sapless and cracking into the

first fragments of its dusty death in the heavens, it passes into smaller and smaller fragments, till as a meteoric belt it sweeps upon its orbit of past days, to be slowly taken back by the chemistry of Nature into the primitive ether again.

But its purpose has been served in the heavens. By that mysterious law of seed that keeps the universe renewed in its shapes, it has given birth to and cast abroad into the primitive soil of the ether, the final shapes of its creative will. Those plastic and breathing statues of sensitive life, that erstwhile moved upon its unripened surface, have been woven by the central core of the creative ecstasy of the spheres, into an interplanetary form of life.

Behind these, thrown off from all those planets which mature to their ripe and full end, seeding seed to seed again, lie the fields of planetary volition and energy, the conflict and law of the spheres, the narrowness and limitation of the sheath in which they were moulded; *before* them lie the fields of interplanetary volition and energy, the conflict and law of those fields, the expansion, vision and environment of the myriad ripening orchards of the congregated heavens, whereinto falls for ever the matured seed of the ripened planetary fruit of the cosmos.

Subtle and mysterious, hard to be understood, *if examined in detail and particular*, is the exfoliation of conscious life out of the primitive gases of space; the ethereal and common soil of nature. Equally subtle and mysterious, hard and difficult of belief, is the passage of conscious life back into the primitive fields again, if required alike *in detail and particular*. But fluid, simple and easy of belief, is either process, if viewed in the light of those simple but far-reaching laws, which subtend from end to end the growth of conscious life, through the changing environments of the sphere.

If in the light of the moment of the stern realities around, of the rigid rock and unbending earth, all is hard, crude, and difficult of belief, yet in the light of the infinite flowing movement of time, of the unwearied action of the delicate and sensitive hands of the great laws, of the infinite slow crumble of the spheres to their dusty death in the heavens, of the plastic

and fluid forces that mould and sway our being, all becomes easy, simple, and fluid of belief.

All was of the ether and all returns to the ether; the planets as dust through the processes of death, and the seed of the planets as facultied ether through the processes of life. Of the ether, interplanetary and primitive, all the shows of the cosmos are woven. All the intricate and complex forms that move upon the surfaces of the spheres; all the entrained forces of the planet life; all the atmospheres and seas that engirth and wash the spheres, all are but more or less complex forms of that interplanetary ether which awaits, as *environment* and *atmosphere*, the seed that issues in faculty and form, from the planets. Native to the ether at all times, they but pass from primitive ether to primitive ether, through the processes and courses of the planets, which are themselves ether.

The ether is the common soil; the cosmos, the tree; the planets, the fruit of that tree; and man, the seed of that fruit. As the fruit ripens, the seed matures; as the fruit loses, the seed gains vitality and power. As the fruit prepares to pass into, the seed prepares to triumph over, dust.

As the core forms in the heart of the apple; as the pollen falls from the fruited bough; as the seed forms in woman, so organic, conscious, and creative seed, forms on and passes from the womb of the nursing spheres. The mystery of seed is the mystery of the cosmos. Each seeds after its kind, various as the forms of Nature are various; the planets after their kind, and the things of the planet after theirs. Out of the millions seeded by each kind, but a percentage win through to seed again. Taken in conjunction with the adamant and unchangeable laws that sweep through the fields in which this seed is sown, we tread perhaps nearer here than elsewhere, to the threshold of that unanswerable question, of the consciousness of the cosmos as a whole, which is and must ever be the crux of our speculation.

Yet if the seed formed be infinitely more than the seed that matures to seed again, and if the variety of the process of the seed is infinite, as the forms of Nature are infinite, the purpose of the seed is in all cases the same.

Within it, by ways mysterious and unknown, lies the potentiality of the renewal of the process, is contained that principle that rounds the universe in a circle, is visible that principle of self-sufficient and creative content,

"which all laws do bruit,
As imminent in Nature's changing frame.'

§7. SOME CHARACTERISTICS OF INTERPLANETARY BIOLOGY.

OF THE detailed characteristics of these Beings, their form, structure, mode of renewal of waste, purpose, work, place in the ordered hierarchy of conscious cosmical life, degree of power over Nature, mode of locomotion, communication, Man, from his present degrees and place in the hierarchy of conscious life can know nothing.

The vision from spiral to spiral, and degree to degree, is limited to the perspective and language of the spiral or degree seeking that vision.

What the gas was to the saurian, the saurian to Man, Man is to that which follows Man. Yet as in gas, saurian, and Man, the broad analogies of Nature hold true, since the creative design of Nature works by a common method to a common end, so these analogies must hold true, in these interstellar and conscious Beings.

Environment and heredity form with them, as with us, the profound modifying principles.

What this environment and heredity demand—must, by the providence of these and the other great laws which watch over them, as us, be provided.

Over the vaster degrees that subtend their being, that stretch in the vistas of their insight and speculation, they, like us, can have no control.

But over the smaller degrees of their being, in that world of chance, disaster, accident, art, where they adapt the ends of these great laws, to their immediate perspective and design, they, like us, will have some control.

As the last stages of all planets have a common uniformity of condition, in loss of sea and atmosphere, rest of ether on surface, dry of green and fertile life, so the final species that spring from all planets that ripen to their full end, that fail not in the *regular and ordered series of*

their slow changes, must have a like uniformity of organ, power, and function.

As the middle stages of all planets have an infinite variety of condition, in mass, time and rate of cooling, number of light-shedding satellites, distance from, and angle of polar axis to, central sun, balance of chemical constituent, distribution of sea and land, so the species that spring from all planets will have a like variety of inherited temperament, idiosyncrasy, and character.

As there is a variation of perfection and beauty in the seed of any one species upon the planet, so will there be a like variation, among the final seeds that fall into space from any one planet.

As the most vital and creative seed, that best fitted to survive in the struggle for the survival of the Fittest, springs from those organisms which are themselves best fitted for that struggle, so the planets which have the most regular and ordered series of changes of surface, which are most favourably situated in the heavens, will produce the strongest and most vital seed, best endowed for that struggle, among the interstellar species.

As the fine shades of value, between Form and Form, *upon* the surface of the spheres, are established by the law of Inequality, so the same law establishes similar fine shades of value and distinction among those seeds that fall into space *from* the planets.

As the common equality of all Forms *upon* the planets as Absolute and in the presence of death is secured by the Law of Equality, so the same law secures a like Equality among those Forms that range *beyond* the spheres.

As the meet and criss-cross of the great laws form that world of chance and disaster wherein our faculties guide and protect us *now*, so will the meet of the ends of the same great laws, and the immediate time and space of these beings, form a similar field for the activity of their organs, *then*.

As the attractive forces of Nature draw men together and the repulsive drive them apart *now*, so will they these Beings, *then*.

As the systole and diastole of the heart's action, preserve us fresh and pure in our spaces *now*, so will a similar action, in theirs, *then*.

As we breathe one form of ether *now*, so will they another, *then*.

As our mode of locomotion and nutriment of life is suited to our conditions *now*, so will theirs be suited to theirs, *then*.

As the laws of birth, growth, maturity and death attend us *now*, so will they attend them, *then*.

As heredity acts, environment moulds, and the fit survive *now*, so will they, *then*.

As function, faculty and form shift *now*, so will they, *then*.

As the law of the excess of seed over birth, secures that the common purpose of Nature does not fail *now*, so will it secure it, *then*.

As we evolve on the spirals of least resistance *now*, so will they, *then*.

As we turn to the miracles of the Will for our triumph on the spheres *now*, so will they to the miracles of a greater Will, for their triumph beyond the spheres, *then*.

As we leave the gross and the dense behind us *now*, so will they have left, what we do not yet esteem gross or dense, behind them, *then*.

As the spiritual begins to dominate *now*, so will it have proceeded to a further domination, *then*.

As the exfoliating ecstasy of Nature breathes through us *now*, so will it, to a greater degree, through them, *then*.

Endless analogies link that which *will be* to that which *is*, as they link that which *is*, to that which *has been*, for everywhere the common genius of Nature, works through a similar method to a common end.

Spiral flows into spiral, degree into degree, species into species, will into will, but ever at the head of the fluid tide of inherited life, which, gathering strength as it goes, fulfils the purpose of the creation, the advancing wave of conscious life, breaks in foam over the seas of space and time. Worlds fail and systems crumble, galaxies exhaust themselves and the far-shining planets of the vaulted heavens become dust in the high-roads of Nature's purpose, but ever from the vast deeps of her creative necessity, new galaxies evolve, fresh

suns are born, later planets evolve and similar seed is shed *from* those planets, into the common soil, the primitive ether of space.

Caught in the tangle of the great laws, a percentage for ever fail, but borne on the main stream of those laws, a percentage for ever win through and seed to seed again.

Out of the Formless and Incomprehensible Absolute, all rise; over the fields of the Absolute as Form, all pass. Everywhere a common genius manifests itself. Everywhere a central trend exhibits itself. To the law of Equality all appeal, as a refuge from the strife of the field of Form; from the inequalities of its equipment; its hard and ruthless justice, without mercy or pity; its unequal scale of happiness, beauty, power and reward.

To the law of Inequality all appeal for the justification of their conquest and dominion of life, for the savage barbarities of their strife, for the justice of their implacable decrees and the exfoliation of their incessant instincts.

Into the Formless Absolute, beyond justice, mercy, sorrow, joy, sin and suffering, all escape through the ever open portals of death, leaving their mortality behind them, shedding the terms of their grief and inquiry, joy and satisfaction.

But in that field of Form that they, while alive, inhabit and strive in, Degree, master and maker of their destiny, lawgiver and setter up of their standards, reigns supreme.

On Degree, the sliding scale of the Absolute as Form, is based our judgment, justice, vice, virtue, law, chaos, dominion, obedience, growth, hope, despair, joy and sorrow.

If you do take away degree

Chaos is come again.

And as the vistas of our growth to come, open through the broad highway of the cosmos,

We need not put ourselves into amazement,
How these things should be.

Day follows day,
Becomes the next day's master, till the last
Makes former wonders its.

Through all, Nature speaking through us,
Still climbing after knowledge infinite,
Wills us to wear ourselves and never rest.

THE MAPPING OUT OF HUMAN KNOWLEDGE.

By A. G. BRACKENBURY

In an essentially utilitarian age it is perhaps necessary to make an apology for introducing a subject the immediate value of which is not at first apparent. We are in an age in which, figuratively speaking, everything is subjected to the microscope, and the atom assumes the

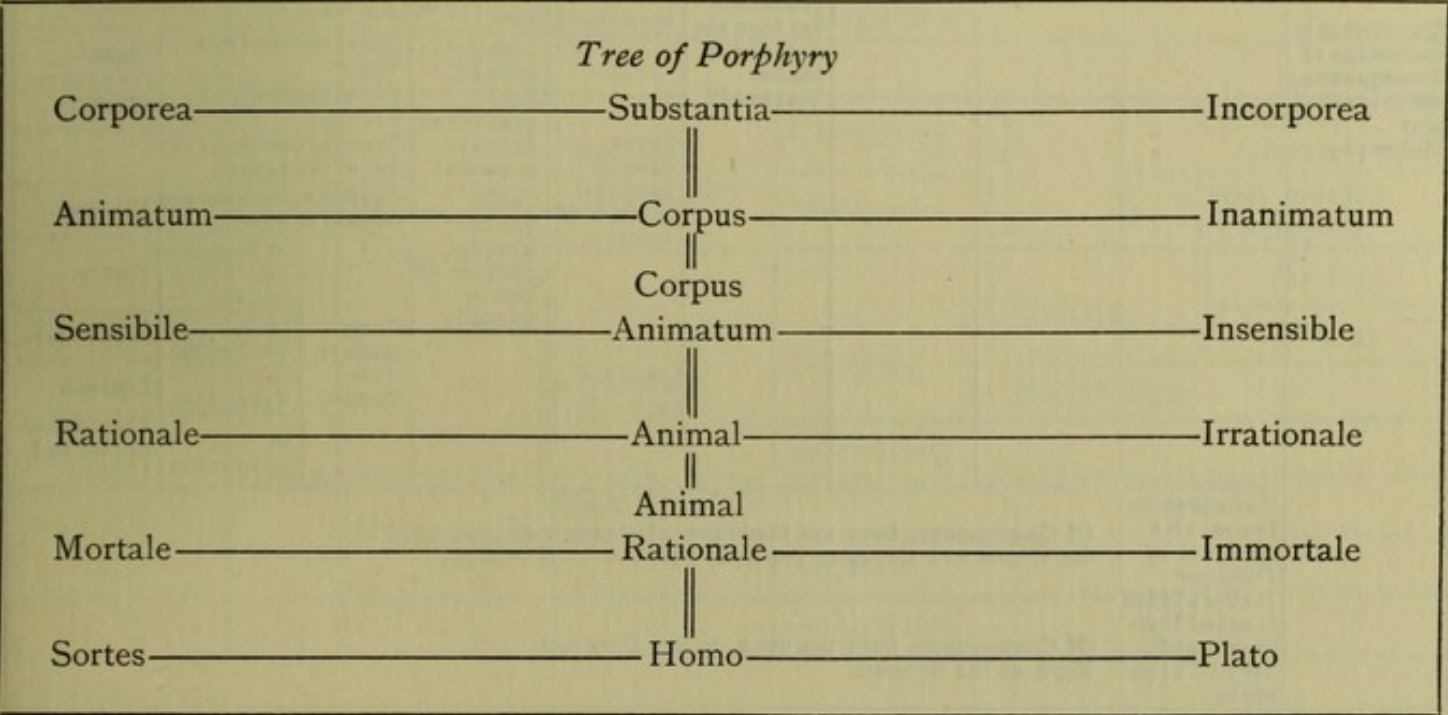
429—348B.C.

PLATO'S DISTRIBUTION OF KNOWLEDGE.

Intelligible World.	Ideas. (Intuition)	Logic.
	Concepts. (Reason)	Arithmetic.
	Objects of sense, which the intellect alone can grasp, but based on unproved principles.	Plane Geometry.
		Solid Geometry.
		Astronomy.
		Harmonics.
Visible World.	(Sense)	Things (substance) <i>Belief.</i>
	These two divisions are only higher and lower forms of opinion.	Images of things (Shadows) <i>Conjecture.</i>

A.D. 233^{cir}—303

PORPHYRY.



that the products of intellect (in the form of written and printed knowledge) are being accumulated. The power to be educated is transmitted to a scarcely perceptible extent, and each generation has to acquire afresh with little or no increased capacity, whilst the specialist is piling up undigested knowledge at a truly terrific pace. The result is, as stated, a general narrowing down in outlook, due primarily to the limitations of the intellect, and secondarily to the specialisation, the outcome of the primary cause.

The obvious deduction to be drawn from these facts is that we need a scientific method of co-ordinating and co-relating knowledge, so that a general synthetic view of the universe may be obtained that will give the mind a complete grasp of any problem or section of

knowledge, and place it in true perspective to the rest of knowledge.

This synthetic view must be big enough in the radius of its action to take in not merely the special sciences, but those subtle aspects of thought that cannot be reduced to sciences, as, for instance, the æsthetic aspect of Life, Art and Literature (both changing in their point of view and standards from age to age), and the moral aspect of life, based on purely arbitrary standards of tradition.

The point of view is by no means new; during all ages philosophers have attempted to bring knowledge into a rhythmic scale, to bring the entire range of ideas within an octave, this in turn reducible to a dual note.

If we glance at the accompanying diagrams, a general idea of the points of view in different

1748-1832.

JEREMY BENTHAM. (Encyclopædical Table.)

Physics.	Mind	Sense.	Æsthetic.					
			Ethics	Practice.	Private Ethics.			
					State Ethics.	International Politics.		
				Internal Government.				
			Theory					
		Intellect.	Language	Rhetoric				
	Grammar							
			Logic					
	Matter	Cosmology.	Natural Philosophy	Chemistry	}	}	Technology (Arts)	
				Mechanics			Experimental Philosophy.	
			Natural History	Geogeny	Biology	Zoology.		
					Mineralogy.	Botany.		
					Astronomy.			
				Mathematics	Geometry			
		Number	Algebra.					
Arithmetic.								
Metaphysics.								

ages may be gained. Starting with Plato, who gives us a big conception of the Universe, we get a gradual narrowing down of outlook until we arrive at Herbert Spencer. Here the objective point of view alone is taken, as opposed to the objective and subjective of Plato.

The modern classifications avoid anything that cannot be measured or weighed; hence Herbert Spencer does not find room for Metaphysics, Theology or the Arts. This is not surprising, however, considering his outlook. One is here reminded of Goethe's synoptic view of nature when he said—"Nature is

1820—1903.

HERBERT SPENCER.

Classification of the Sciences.

Science	that which treats of the forms in which phenomena are known to us		Abstract Science	(Logic and Mathematics)
	that which treats of the phenomena themselves	in their elements	Abstract-Concrete Science	(Mechanics) (Physics) (Chemistry, etc.)
		in their totalities	Concrete Science	(Astronomy) (Geology) (Biology) (Psychology) (Sociology, etc.)

Table I.

HERBERT SPENCER.

Classification of Abstract Science.

Table 1.

HERBERT SPENCER.

Abstract Science	Universal law of relation—an expression of truth that uniformities of connexion obtain among modes of Being, irrespective of any specification of the natures of the uniformities of connexion.					
	Laws of Relations	<i>that are qualitative</i> : or that are specified in their natures as relations of coincidence or proximity in Time and Space, but not necessarily in their terms: the natures and amount of which are indifferent (Logic).				
		that are quantitative (Mathematics)	<i>Negatively</i> : the terms of the relations being definitely-related sets of positions in space; and the facts predicted being the absence of certain quantities (<i>Geometry of Position</i>).			
			<i>Positively</i> : the terms being magnitudes composed of	units that are equal only as having independent existences (<i>Indefinite Calculus</i>).		
		Equal Units		the equality of which is not defined as extensive, protensive, or intensive (<i>Definite Calculus</i>)	when their numbers are completely specified (<i>Arithmetic</i>).	
					when their numbers are specified only	in their relative (<i>Algebra</i>).
				in the relations of their relations (<i>Calculus of operations</i>).		
		Equal Units	the equality of which is that of extension	considered in their relations of co-existence (<i>Geometry</i>).		
				considered as traversed in Time	that is wholly indefinite (<i>Kinematics</i>).	
					that is divided into equal units. (<i>Geometry of motion</i> .)	

Table II. HERBERT SPENCER. Classification of Abstract-Concrete Science.

Abstract-concrete Science	Universal Laws of Forces (tension and pressure), as deducible from the persistence of force: the theorems of resolution and composition of forces.						
	Laws of forces as manifested by matter	in masses (Mechanics)	that are in equilibrium relatively to other masses		and are solid (<i>Statics</i>).		
					and are fluid (<i>Hydrostatics</i>).		
			that are not in equilibrium relatively to other masses		and are solid (<i>Dynamics</i>).		
					and are fluid (<i>Hydrodynamics</i>).		
		in molecules (<i>Molecular Mechanics</i>)	when in equilibrium (<i>Molecular Statics</i>)	giving statical properties to matter	general, as impenetrability or space occupancy		
					special, as the forms resulting from molecular equilibrium		
			when not in equilibrium (<i>Molecular Dynamics</i>)	giving statico-dynamical properties of matter (cohesion, elasticity, etc.)	when solid		
					when liquid		
					when gaseous.		
				as resulting in a changed distribution of molecules	causing increase of volume (expansion, liquefaction, evaporation)		
					causing decrease of volume (condensation, solidification, contraction)		
				as resulting in a changed distribution of molecular motion	which alter their relative position homogeneously		
					causing decrease of volume (condensation, solidification, contraction)		
					which alter their relative position heterogeneously (<i>Chemistry</i>)		
					producing new relations of molecules (new compounds)		
					producing new relations of forces (new affinities)		
					which by integration, generates sensible motion.		
					which by disintegration generates insensible motion, under forms of		
					<i>Heat.</i> <i>Light.</i> <i>Electricity.</i> <i>Magnetism.</i>		

Table III. HERBERT SPENCER. Classification of Concrete Science.

Concrete Science	Universal Laws of the continuous re-distribution of Matter and Motion; which results in Evolution where there is a predominant integration of Matter and dissipation of Motion, and which results in Dissolution where there is a predominant absorption of Motion and disintegration of Matter.						
	Laws of the redistribution of Matter and Motion actually going on.	among the celestial bodies in their relations to one another as masses: comprehending (<i>Astronomy</i>).		the Dynamics of our stellar universe. (<i>Sidereal Astronomy</i> .)			
				the Dynamics of our Solar System. (<i>Planetary Astronomy</i> .)			
		among the molecules of any celestial mass; as caused by	the action of these molecules on one another (<i>Astrogeny</i>):	resulting in the formation of compound molecules. (<i>Solar Mineralogy</i> .)			
				resulting in molecular motions and genesis of radiant forces.			
				resulting in movements of gases and liquids. (<i>Solar Meteorology</i> .)			
			the action of these molecules on one another, joined with the actions on them of forces radiated by the molecules of other masses: (<i>Geogeny</i>).	as exhibited in planets generally.			
				as exhibited in the Earth	causing composition and decomposition of inorganic matter. (<i>Mineralogy</i> .)		
					causing redistribution of gases and liquids. (<i>Meteorology</i> .)		
					causing redistribution of solids. (<i>Geology</i> .)		
					causing organic phenomena; which are (<i>Biology</i> .)	those of structure. (<i>Morphology</i> .)	
						general	
					those of function	in their internal relations (<i>Physiology</i> .)	special
							general
						In their external relations (<i>Psychology</i> .)	special
							general
						special	separate
							combined (<i>Sociology</i> .)

neither kernel nor shell; She is everything at once."

Our task, then, in mapping out human knowledge is to place the mere external description of things (Physical Science) in

relation to other and more subtle creations of the mind; we must indeed compound the intuitive synopsis of the Philosopher with the Analytic observation of the Scientist.

This object, it is believed, will be achieved

MARSHALL BRUCE-WILLIAMS.

Analogy between Man and the Universe.

Man	Term used in the Science of Organisation.	Analogous objects and subjects of human knowledge.
Head	INTELLECTUAL	Abstract Laws of the Universe and of thought, only conceivable by Pure Intellect, such as Logic, Mathematics, Physics.
	MORAL	Knowledge and Institutions based on Tradition, such as History, Moral Law (in Religion), Coercive Law (in Jurisprudence), Precedent, Custom, etc.
	ÆSTHETIC	The Selective and Creative principle based on a discrimination between beauty and ugliness, includes the Arts and Crafts; Architecture, Literature, Music, Painting.
	EMOTIONAL	The first manifestation of self-consciousness in organism based on desire and aversion, deals with the phenomena of consciousness by an analysis of apprehension in Psychology and Psychophysics, and the synthesis of apprehension in Language.
Nutritive and Circulatory System.	VITAL	The whole of organism considered as living matter apart from consciousness; under this sub-division the whole of the organic world is dealt with; includes Biology and subsidiary sciences. In the field special to human activity, Commerce (the circulation of goods and money) will be dealt with.
Muscular and Bony Structure	PHYSICAL	The whole of physical matter considered apart from Organic or Life structure. Under this sub-division the whole of the Inorganic world is dealt with, including Chemistry, Mineralogy, Metallurgy, Geography, Astronomy. In the field special to human activity, manufacture (manipulation of inert matter) will be dealt with.
Sex	GENETIC	Genesis of the Universe. Deals with origins of Ether, Matter Organism, Mind, etc.

THE SEVEN FUNCTIONS AND THEIR SUBSIDIARY ASPECTS.

INTELLECTUAL							
Intellectual	Moral	Æsthetic	Emotional	Vital	Physical	Genetic	
MORAL							
Intellectual	Moral	Æsthetic	Emotional	Vital	Physical	Genetic	
ÆSTHETIC							
Intellectual	Moral	Æsthetic	Emotional	Vital	Physical	Genetic	
EMOTIONAL							
Intellectual	Moral	Æsthetic	Emotional	Vital	Physical	Genetic	
VITAL							
Intellectual	Moral	Æsthetic	Emotional	Vital	Physical	Genetic	
PHYSICAL							
Intellectual	Moral	Æsthetic	Emotional	Vital	Physical	Genetic	
GENETIC							
Intellectual	Moral	Æsthetic	Emotional	Vital	Physical	Genetic	

by an application of the Principles of the Science of Organisation, the Axiom of which is that Society is an extension of the Individual, to which may be added that man is the measure of the Universe. For purposes of analysis the human being has been divided into a natural group of functions, and by a process of analogy these functions or principles are used as a measure of all the objects of human activity. A glance at the Chart illustrating this point reveals the value of this subdivision, which, in addition to taking in ideas in a rhythmic scale, is evolutionary in character, progressing in the order of nature from *Genetic* (ether and origins generally) to the *Physical* (the Inorganic world), followed by *Vital* (the organic world), and *Directive* (the world of self-consciousness).

Besides the defects due to limitations of outlook, the classifications of the nineteenth century go no further than merely arranging the headings of the sciences in some sort of relation to each other, no attempt being made to relate the details of one science or part of knowledge to the details of another science or part of knowledge.

This is not the case, however, in the system formulated in the Science of Organisation; the proposal is not only to form a general synthesis of the principal groups of knowledge, but to follow out each portion of an art or science to its uttermost ramification, and co-relate it by formula to any other part of an art or science occupying an analogous functional position in the general mechanism of things.

The proposal suggests a vastly complicated machinery more difficult to master than the knowledge itself: but this is not the case, as

will be seen on an examination of the Chart of the "Seven Functions and their Subsidiary Aspects." Here we find seven strata, each taking in a great aspect of our knowledge of the Universe. Each strata is again subdivided into functions similar to those of the whole—a universe within a universe. Thus the seven functions are each subdivided into seven subsidiary aspects, giving in all forty-nine combinations of ideas; each of these combinations is capable of a further subdivision into forty-nine,—and we have $49 \times 49 = 2,401$. The first 49 may be termed the A group of ideas, and the 2,401 the B group of ideas. The B group is further divisible into 117,649 parts termed the C group, and these again by a simple sub-division of each combination produces D group, numbering 5,764,801. Each one of these five million odd can, by using the first letter of each function as formula (similar to the method followed by chemists in constructing formulæ from the first letter in the name of the element), be instantly carried back to its source or primary function in the A group of ideas, without any greater mental effort than is needed to think of the first seven letters of the alphabet.

Thus we have an instrument of infinite simplicity, capable of mastering fields of knowledge of vast and almost unthinkable complexity, and relating each part of knowledge, so that the greatest economy of mental effort is obtained.

This work of co-relating the whole of knowledge by simple formula is now being attempted by the Organisation Society, and from time to time a summary of the classification will appear in the O.S. REVIEW.



The organised sciences ascend in an open spiral from man as organised by nature.



The vast inequalities of modern wealth and poverty, opportunity and lack of opportunity, education and lack of education, etc., and the reactions against these extremities, imply that society rests on false extremes and has lost the middle lines and degrees where the golden mean of life lies.

INDIAN PHILOSOPHY IN THE LIGHT OF THE SCIENCE OF ORGANISATION.

By COL. B. R. WARD, R.E.

The Bhagavad Gita contains in a small compass a synthesis of Indian philosophy from the mystery doctrine of the ancient Rajputs to the teaching of Siddhartha. It includes also many references to the ritual worship of the Brahmans, with which much of the mystery teaching was subsequently incorporated.

In structure the poem is exceedingly regular. It consists of eighteen books, which may be subdivided in sixes.

The first six books are concerned with Aspiration or Faith.

Books VII to XII deal with Illumination or Knowledge; and the last six books treat of Realization or Wisdom.

The whole poem is a splendid allegorical picture of the Path or Way of Life, which, originating in the Divine at length blends with the Divine in Nirvana. In the language of the Science of Organisation, the Line of Directed Movement of the poem may be described by the three words:—

Aspiration, Illumination, Realization.
(Faith). (Knowledge). (Wisdom).

The following extracts from the three sections of the poem illustrate this idea.

Arjuna in each case is the learner; Krishna—alluded to generally as the Master—is the teacher.

Faith is alluded to in the following extract from Book VI, verses 37 to 40.

Arjuna said:—"If one be full of faith, yet uncontrolled, because his mind wanders from union falling short of the perfect attainment of union, what path does he follow, Krishna? Does he perish like a riven cloud, missing his way in both worlds, unsteadfast, mighty armed one, deluded from the path of the Eternal?

Deign to solve this doubt of mine completely, Krishna; for other than thee none may solve this doubt."

The Master said:—"Son of Pritha, neither in this world nor the other is there any loss for him; nor does any doer of fair deeds, friend, enter into the evil way."

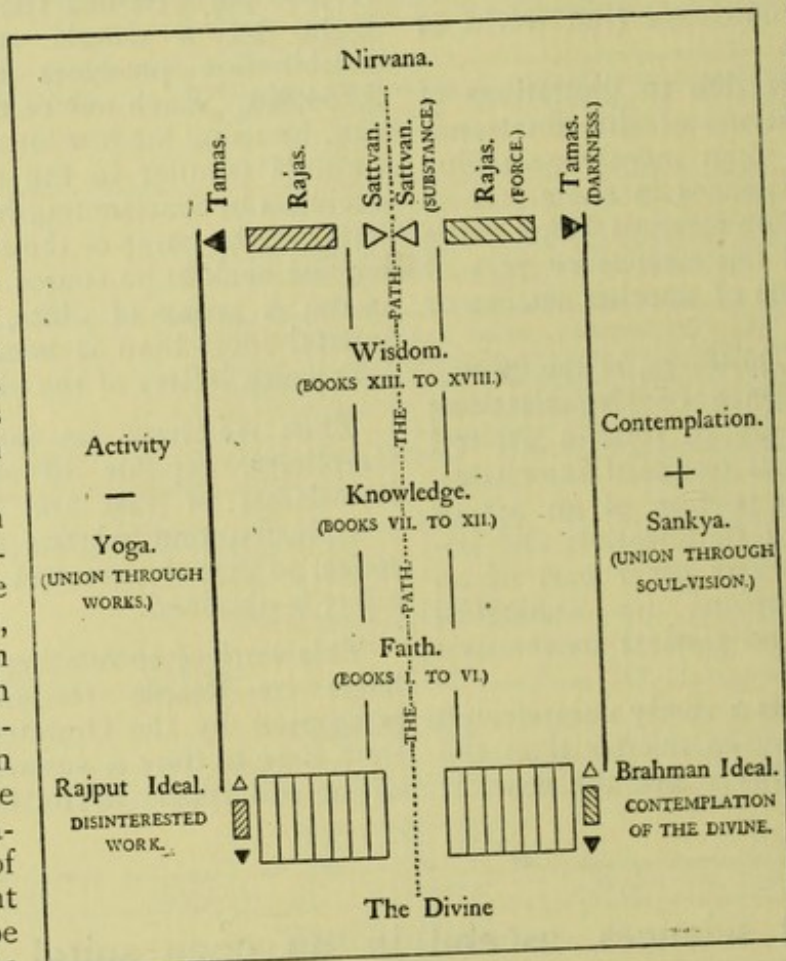
The central series of six books deals with Illumination or Knowledge. These books contain an account of the transfiguration of Krishna, by means of which many mysteries are revealed to Arjuna.

The following speech of Arjuna, after witnessing the transfiguration of Krishna, illustrates this point.

The extract is from Book XI, verses 36 to 38.

"Rightly, O Thou of flowing hair, the world joys and rejoices in thy praises! Demons fearing flee to the corners of space; and all the hosts of Masters bow down before Thee.

And how should they not bow down before Thee, O Mighty Spirit, Who art more potent



than the Creator, Who makest the beginning of things!

* * * *

Thou art knower and knowable, and the supreme home; by Thee, of endless form, was all this stretched forth!"

The last six books contain a series of practical directions for life, which it is the part of the wise man to carry out.

Arjuna's last speech—from Book XVIII, Verse 73—is couched in the following words:

"Gone is my delusion; I have come to right remembrance through Thy grace, O unfallen one! I stand with my doubts gone. I shall fulfil Thy word!"

The Principle of Duality is exhibited in the Bhagavad Gita by the dual path, by following which Nirvana may be attained.

One path—that of the Brahmans—is the way of Sankya. The other—that of the military race of the Rajputs—is the way of Yoga.

"The Master said:—In this world a twofold rule was declared by me of old, O sinless one: by union through wisdom for the Sankyas; by union through works for the followers of Yoga." Book III., Verse 3.

The teaching of the Bhagavad Gita is that these two roads are really one, or in the language of the Science of Organisation that a due proportion of the contemplative and active life is necessary for perfection.

¶ "The Master said:—Children, not wise men, speak of Sankya and Yoga as different; he who has perfectly mastered one finds the fruit of both.

The goal that is gained by the Sankyas, is

NOTES ON

The enormous increase in mechanical road traffic has created, in connection with the upkeep of public roads, a very difficult problem, which is intensified by the number of Public Authorities concerned, the absence of sufficient data, and the lack of co-ordination of what statistics are available.

The International Roads Congress is meeting in London this month to discuss the various road problems, and the Organisation Society have prepared a Special Roads Organisation supplement, which by authority will be placed before all the members of the Congress.

The supplement issued with this number of the Review contains an analysis of Roads data, diagrams of the Roads authorities of Great Britain, and an Explanatory Memorandum on Roads Organisation, by Col. F. N. Maude, R.E. Copies of the supplement may be obtained separately on application to the Hon. Sec. of the Society.

* * * *

The second session of the Congress Mondial des Associations Internationales takes place in Brussels this month. The objects of the Congress are: to establish permanent relations between International Associations, and unify their methods: to study facts of International life and deduce a practical conception of world organisation founded on law, etc.: the general object aimed at being the development of International relationship, to enlarge

also reached by the followers of Yoga; who sees Sankya and Yoga as one, he indeed sees." Book V., Verses 4 and 5.

The Principle of Degree is illustrated by the Indian teaching of the three worlds of Substance—Sattvan; Force—Rajas; and Darkness—Tamas.

The Thoughts, Plans, and Deeds of men are in one or other of these three worlds.

The world of Darkness may be conceived of as the physical world, the world of Force as the psychical world, and the world of Substance as the spiritual world, the substance of the Universe being Divine.

"The Master said:—Faith is of three kinds; it is according to the innate character of embodied beings, either of Substance, or of Force, or of Darkness. Hear it thus:—Everyone is according to the nature of his faith, descendant of Bharata. For man is formed of faith; what his faith is, that verily is he.

Those of Substance worship bright deities; those of Force, deities greedy and passionate; the others, the men of Darkness, worship the hosts of darkness, the spirits of night." Book XVII, verses 2 to 4.

Lastly, the Axiom of the Science of Organisation is illustrated by the ideals of the Brahman and the Rajput respectively. The ideal of the priestly Brahman is "Union with the Divine through Soul-vision," that of the military Rajput is "Disinterested work."

The philosophic framework of the poem may finally be charted in the following form—illustrating all the foregoing points in the light of the Axiom and the three Principles of the science of Organisation.

PROGRESS.

human solidarity, and to ensure peace among the nations. The Committees of the Congress issued an invitation to the Organisation Society to take part in the Congress, but unfortunately the notice given was short, and this, together with the amount of work in hand at the Organisation Society, made it impossible to send delegates. Papers of the work and principles of the O.S. have, however, been forwarded for the consideration of the Committee of the Congress.

* * * *

The First Annual Dinner of the Society will take place on June 24th, at the Savoy Hotel.

Mr. Bruce-Williams, the President of the Society, will be in the chair, and the company, including members and their guests, will number over a hundred. A report will be given of the progress made by the Society during the past year, and speeches dealing with the problems of the day will be made; an abstract of the latter will probably be printed in the next number of the Review.

* * * *

Subscribers and Members of the Organisation Society are requested to inquire about the O.S. Review at the bookstalls of Messrs. W. H. Smith & Son, at the main railway stations in London and in the provinces.

A PERSONAL FAITH AND THE SCIENCE OF ORGANISATION.

By JAMES GRUN.

Our States of Being.—Men may doubt traditional Codes of Thought and Action, such as Law and Religion; these come to us second hand. But each man knows at first hand his own State of Being. *That* Knowledge is direct, certain, basic. Consequently it forms the most important factor in the life of the individual. Can it be summarised?

Let us begin with our ordinary, everyday state. The simplest and most comprehensive way of summing it up (with all its infinite mysteries) will be to name it: "The Abode of Dualities"—the house divided against itself. Within this habitation men look on the world as sundered into The Seer and The Seen; into Subject and Object. They apprehend themselves directly from within, and all other things indirectly from without. And in consequence of so understanding things from the outside only, they move in a continuous round of calculation, groping in a maze of ignorance and error. But ever on the heels of their miscalculations and misunderstandings follow danger, anxiety, and destruction.

Moreover, a second spell falls on those Servants of Dualities:—emotionally, they must sunder life into the Male and the Female, themselves taking up one side only, and receiving but a half-understanding of life therewith. This shortcoming carries its own punishment. Again the lash of Nemesis descends, a world-wide lash of sex-tragedy.

Lastly, the Dwellers among Dualities are doomed to split life into "Self" and "The (rest of the) Cosmos." Each individual challenges Nature. Personal agonies and triumphs follow each other, rotating like chariot-wheels:—the Abode of Dualities is the Field of War.

This much all of us know, from experience. Ours is a World of Discord which may well be termed: "Paradise Lost."

But—things of quite a different order exist also, within our experience: things born of right Understanding, living Sympathy and Impartial Action. Can these, too, be summarised, and their source identified? What State of Being do they spring from?—They spring from the State of Unity in Perception, in Emotion, in Action; from the State of

Perfect Accordance. When "the Seer" identifies himself with "the Seen," perfect accord begets Intuitive Understanding (creating also the works of Intellectual Genius based thereon). Accordance between "The Lover" and "the Object-of-Love" begets happiness in life (and all heroism and self-sacrifice of the "personal" order). Accordance between Individual and Cosmos begets perfect peace—and creates a new covenant and law of impartial, impersonal Order).

This State of Unity, an ecstatic ^{one,} ^{re-}devouring as a flame, is unchangeable. Wh^e of fore its manifestations: acts of perfect love, genius, and of impersonal, cosmic import, remain ever the same. Sex, age, race, character, individual talents, all vanish, become interchangeable, are absorbed in an entity from which the dualities have been withdrawn. This State of Unity is the one permanent—and harmonious—reality in life we have direct experience of. It may fitly, therefore, be called "Paradise."

A third state of being we have knowledge of can best be described as: "Paradise Regained." It represents a state of relative good-will, of intelligence and of co-operative action; moving, indeed, within the Field of Dualities, but guided by strong recollections taken over from The State of Unity—from "Paradise."

The observation of these three States, and of their inter-relation, forms the body of Personal Belief which the writer set out to compare, contrast and harmonise with the Science of Organisation. Let us examine the latter.

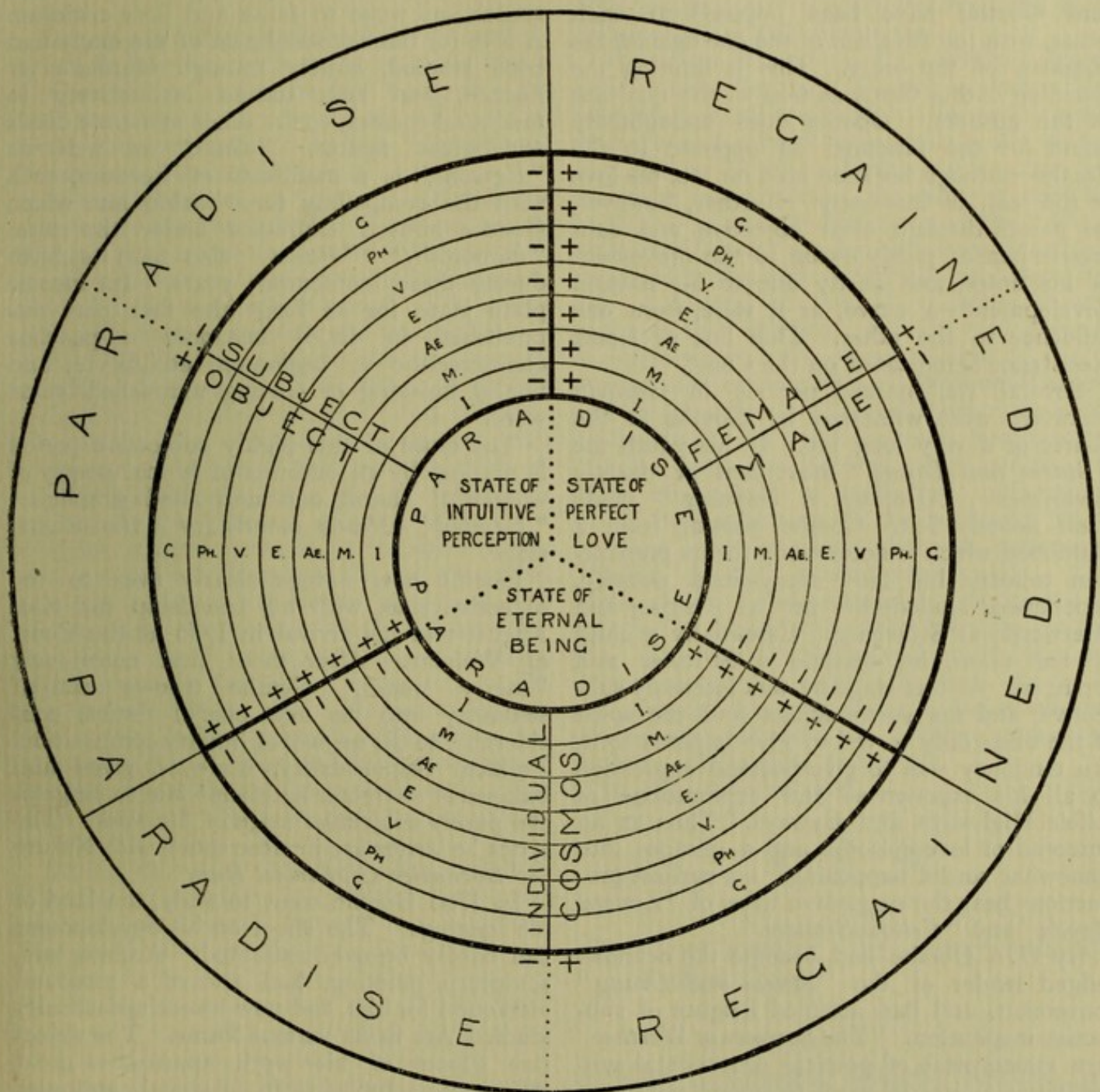
The Science of Organisation, like the writer's own Belief, points to three distinct spheres in our human experience.

The principle "that there is a Universal Duality in Nature" obviously maps out a field identical with the writer's "Paradise Lost."

Next, the principle of a "Line of Least Resistance," involving as it does the idea of a "Line of Greatest Efficiency," creates a field wherein Intelligence, guided by Men of Goodwill, must reign. And obviously this covers identical ground with "Paradise Regained."

Lastly, the Science of Organisation implies that Man,—of whom Society is the extension,—is the Measure of the Universe. Man himself (and Society and Nature with him) is analysed in 7 functions. To force home the true meaning of this analysis, the seven colours of the spectrum are attached to the functions—a band of White being run round to symbolise "The Whole Man," who is more than the mere sum of his own functions, since he bears an unanalysable element along with him, viz., Ultimate Reality.—The Field of this

White Light—of Ultimate Reality—is obviously the Field here christened "Paradise." So that the writer's personal Beliefs and the General Scheme of the Science of Organisation, though strikingly dissimilar in externals, nevertheless slide together with ease. It is indeed one of the greatest qualities of the Science of Organisation that it leaves the (central) White Field open for each man to fill in according to his personal needs,—yet points, as with the steadfast hand of a strong angel, to a better world: straight along the path of Greatest Efficiency.



A STUDY OF GOETHE.

A Dual Analysis.

By ETHEL BOTHWELL MAYE.

A conception of Goethe's mind-growth and hence his career and productions is shown on the accompanying chart, where the Duality of *Subjective* and *Objective* has been chosen to represent the forces between which his genius worked. A common fallacy has been to allow of only one interpretation of the terms Subjective and Objective, whereby Schiller and Goethe have been opposed to each other, with the Idealism of the one against the Realism of the other. This is limiting the meaning of the terms as well as the qualities of the authors. Goethe does undoubtedly stand for the practical as opposed to the dream—through his keen hold on life, his love of the real, of humanity. Further, however, he passes through clear objective and subjective phases, partly owing to the movement of his times, and partly due to his natural development—a curve, as it were, from one influence to the other. This line of Least Resistance is indicated on the Chart.

Several well-marked periods in German literature were witnessed by Goethe in the course of a very long life. In his youth the "*Sturm und Drang*" movement of titanic lawlessness ("Unnatur v. Unnatur") made itself fiercely felt. Goethe, passing from a childhood which is noteworthy for its preparation towards his later many-sided activity, experienced student life first at Leipzig and afterwards at Strasburg. Essentially a child of his times, he became a Stürmer and Dränger. At this stage he was intensely subjective, and his surroundings and the spirit of the times only served to give impetus to it. His tendency was to give poetical expression to all his experiences and explorations of Life's Highways and Byways. Thus as an outcome of love-episodes and a glimpse into somewhat sordid happenings, his earliest productions bear the suggestive titles of "*Lovers' Moods*" and "*Fellow-Sinners*."

By 1774 Goethe had become the acknowledged leader of the "*Sturm und Drang*" movement, and had attained heights of subjective inspiration. "*The Sorrows of Werther*" is a masterpiece of poetical sentimental subjectivity—a type of work to create nausea in

the normal matter-of-fact reader were it not for the delicacy and simplicity of the handling. Before, however, giving forth this Idyll, which took Europe by storm and produced a host of imitations, Goethe had already voiced the spirit of this period in his tempestuous historical drama of "*Götz von Berlichingen*," with which he, so to speak, gave his maiden speech and woke to fame and fiery criticism. A love for the historical past of Germany had been kindled, largely through Herder's influence, and men turned instinctively to mediæval themes, to the times of heroic deeds and great figures. "*Götz*," as well as "*Egmont*," is a manifesto of freedom, each with the compelling force within him which Goethe himself expresses under the term "dämonish." "*Faust*" also has its birth during these momentous years. Its incomplete state for so long (the first part was published in 1808) instances a peculiar characteristic of beginning, adding to, and finally finishing or leaving unfinished some work.

The close of this highly subjective period is marked by an outburst of lyrical poetry of wonderful charm and unrivalled simplicity. "*Egmont*" already stands for a transitional stage.

Goethe now swings clearly over to the objective side, with his friendship for Karl August and his arrival in 1775 at the Court of Weimar. After those first notoriously "merry weeks," Goethe throws himself zealously into his new official duties, considerably to the neglect of literary composition. Political responsibility, however, gives him balance of character and helps him to outgrow the purely subjective stage of his work. The lyrics he writes are in close touch with Nature—"Über allen Gipfeln ist Ruh."

In 1786 Goethe went to Italy, the land of his longings. The effect on his development can hardly be over-estimated. Architecture, sculpture, painting, had always a profound attraction for him, and now he enthusiastically studied Art in its various forms. The objective aspect of his work approaches great efficiency. Interest in classical antiquity

dominated all other æsthetic interests. The "*Iphigenia*," allowing for the background of Charlotte von Stein, is the least personal of his works. Yet, though the classical spirit triumphs over the Gothic, it is not so much Greek tragedy as an antique saga transposed to Goethe's own times. *Tasso* belongs here also, but is more of a subjective, psychological drama. The poet himself is seen in the delineation of the hero. Drama, indeed, is not Goethe's supreme gift. Rarely is the personal element wholly eliminated, a suppression which is essential in dramatic characterisation.

During the ten years that followed Goethe's return to Weimar, he was almost antagonistic to German literature, the fact being that he had outstripped the movement of his day where the murmurings of the "*Sturm und Drang*" were still to be heard.

As the actualities of life (his momentary experiences of campaigning and earnest, scientific pursuits) are brought vividly before him, the subjective aspect sinks into the background. This was the most sterile period of his career as regards literary creation and production.

In 1794, however, began the momentous friendship of Goethe and Schiller. A glance at the Chart will show the poet's full, rich output under the stimulating influence and sympathy of his friend. It is the period of his Classicism. In spite of the subjective nature of the *Roman Elegies*, with their sensuous imagery, steeped in the spirit of the past, inspired by Christiane Vulpius, whom he took into his domestic life to the scandal of Weimar, and many years later made his wife, yet his other compositions, especially "*Hermann und Dorothea*," show him at his best on the objective side. He has reaped the fruit of his Italian journey. He wrote his ballads, finished *Egmont* and *Wilhelm Meister*. *Die Horen* and *Xenien* are entered into, and a noble but futile effort is made by the fellow-poets to reform the Weimar stage.

During the years that follow this period of dramatic organisation and production, Goethe displays indefatigable energy and interests. The year 1808 sees the completion and publication of the first part of "*Faust*," and on the Chart tribute is paid to that chef-d'œuvre by showing its author as curving closely to the Line of Greatest Efficiency, indicative of a fine portrayal of qualities both subjective and objective.

Some years previously, a new influence had made itself felt in the literary world—that of *Romanticism*. It was directly opposed to the standards of the 18th century with their analytic, objective, collective, cosmopolitan outlook, opposed by its own synthetic, subjective, individualistic and national characteristics.

Goethe shows ready sympathy in his understanding of the new movement. Indeed, one of his finest traits is that of keeping step with Progress even in his latest days. He was in the midst of the scientific movement of the 19th century, and eagerly absorbed the most recent theories and discoveries.

His power of creation, too, continues almost unimpaired. In the "*Elective Affinities*" he presents a moral problem studied with classic strength and refined subjectivity. He swings out further on the subjective side when his emotions are stirred to the extent of winning forth the passionate love-burst of the "*West-östlicher Divan*," as also the desire for retrospect leads him into writing his autobiography, full of charm, as well as of more Poetry probably than of Truth. Finally, his last curve is represented on the objective side at a high degree. The continuation of "*Wilhelm Meister*" and the second part of "*Faust*" occupied almost his last days. Both works present great beauty, mingled with problems of social ethics, but suffer from a mass of symbolism and allegory which add confusion to the profound philosophical spirit in which they are conceived. "*Faust*," Part II., was finished in 1831. The whole of the Faust-conception belongs not to one period but to the author's entire literary life. They are the works with which his name is most closely associated; in them, above all, are revealed his master-mind, his wonderful range and variety and his position among the supreme intellects of the world.

In 1832 Goethe died.



The few create, the many inherit,
civilisation.

Genius is organic insight backed by
industry.

GOETHE.

A Dual Analysis.

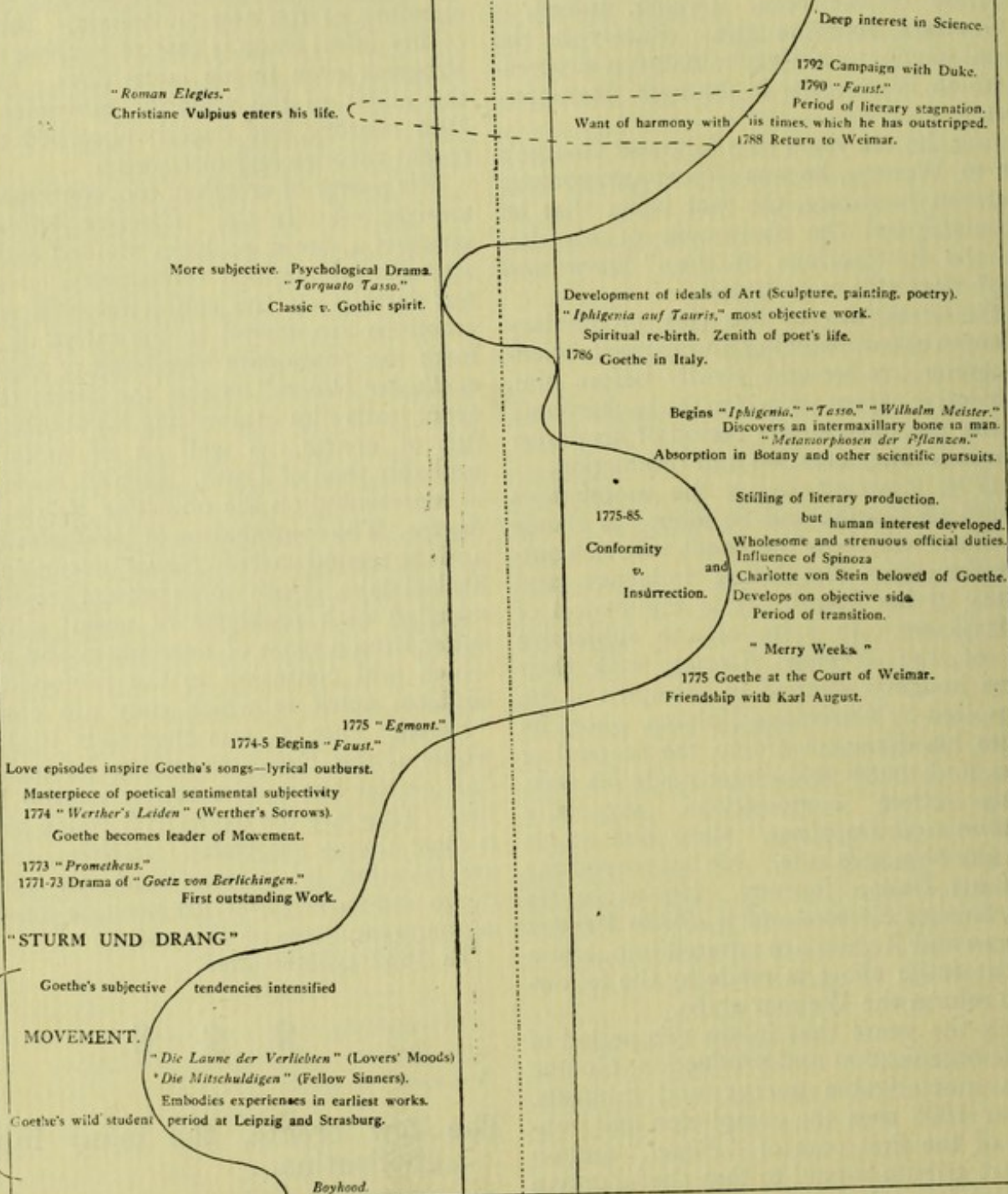
1765-1794.

Subjective.

Objective.

(Continued on next page)

Titanic Lawlessness.



GOETHE.

A Dual Analysis.

1794-1832.

Subjective.

Objective.

"West-östlicher Divan."
Lyrical outburst.

1811 "Dichtung und Wahrheit."
Autobiography.

1809 "Die Wahlverwandtschaften." (The Elective Affinities).

RISE OF
THE ROMANTIC MOVEMENT

1796 "Wilhelm Meister."
Reflective tendency

1832 Death of Goethe.

Intricate symbolism.
1831 "Faust," Part II.

"Wilhelm Meister's Wanderjahre."
Deals objectively with life and education.

1811 "Zur Farbenlehre."
Scientific.

1808 First part of "Faust."

"Die Natürliche Tochter." (Marble aloofness.)

1798 "Hermann und Dorothea"—calm classic objectivity.

1797 Ballads.

Artistic Hellenism.
Goethe's Classicism.

Futile attempt to give ideal to Weimar Theatre.

Concerned with forms and theories.

"Xenien"—satirical retaliation.

Journal of "Die Horen."

1794 Friendship with Schiller.

Continued from previous page.

THE BRITISH LABOUR MOVEMENT.

By JAMES GRUN.

A chronology of the British Labour movement is here presented, analysed functionally in four divisions: (1) the "Directive," which records the chain of "Leading Thought" in the movement; (2) the "Vital," reproducing the "livelihood-getting" economic history of Labour; (3) the "Physical," showing the evolution of Labour's structure, of its political organisation; and (4) the "Genetic," which registers successive steps in eugenic movements connected with Labour.

Of what particular value is a chronology thus organised? This question is the first a reader will ask—and the writer must answer. Briefly, the four-fold analysis of history enables us to trace the effect of Pioneer Thought in

the world of action; to observe clearly the effects of Industrial Organisation in Politics and *vice versa*; and to see how all these forces affect the public attitude on questions relating to the sexes, the family and the young. Wisdom in the handling of public affairs clearly demands a right understanding of cause and effect on the foregoing lines; and to that extent practical knowledge of our four-fold analysis may be considered a prime necessity to the troublous age.

For light, therefore, on the significance of action and reaction,—between, say, the fields of Industry and Politics,—let us turn to our chronology. Take the year 1899 (Economic field): the Taff Vale judgment then destroys

HISTORICAL CHART OF THE BRITISH

PIONEER COLLECTIVIST AND UTOPIAN LITERATURE, etc. (Directive.)	TRADE UNION AND ALLIED INDUSTRIAL MOVEMENTS. (Vital.)
1911 Ruskin College handed over to Labour Movement. 1909 Central Labour College founded.	1911 (Miners) Minimum Wage Act. 1909 Trade Boards Act (sets up board to fix minimum wage to certain trades). 1906 Trades Disputes Bill traverses Taff Vale Judgment. 1901 Taff Vale Judgment confirmed by House of Lords.
1894 Webb's "History of Trades Unionism" 1893 "Merrie England" published. (Social Economic Work. Sale, 1,000,000 copies.) 1892 C. Booth's "Labour and Life of the People." William Morris's "News from Nowhere." 1891 "Clarion" newspaper founded. (Independent, Socialist, Literary, Social, Political.) 1889 "Fabian Essays." 1887 Bellamy's "Looking Backward." 1882 Wallace's "Land Nationalisation." 1880 Henry Georges' "Progress and Poverty." 1877 Guild of St. Matthew (Christian Socialist).	1899 Taff Vale Judgment destroys safety of Trade Unions Funds. Congress resolves on Labour Representation Committee. 1894 Trade Union Congress instructs Parliamentary Committee to promote legislation on socialist basis. 1893 Strike at Maningham Mills reveals to workers Tory and Liberal Employers united against them. 1890 "New Unionism" adhering to independent labour representation—in majority in Trade Union Congress. 1888 20 new "Militant" Trade Unions started. No Provident Benefits, but solid for Independent Labour Representation.
1867 Marx's "Capital." 1862 Ruskin's "Unto This Last."	1876 Trade Union Funds rendered fully secure. Peaceful Picketing legalised. 1871 Trade Unions legalised. 1869 Trade Union Congress affirms need for Labour Representation. 1868 First Trade Unions Congress. 1860 First London Trades Council.
1848 Mill's "Political Economy." Christian Socialists organise. 1839 Carlyle's "Chartism."	1844 Co-operative Movement started by Rochdale "Pioneers" Society. (With £28 capital.) 1833 Factory Act.
	1824 Statutes that made Trade Unions criminal societies annulled. But Unions not granted legal status. 1813 Legal Wage-slavery abolished: repeal of Law whereby Justice fixes Wages.

the safety of Trade Union funds, and in consequence Trade Union Congress resolves on Parliamentary Labour representation to fight out the matter politically. What follows?—Crossing into the Political field, we observe (1900) the formation of a "Labour Representation Committee" (political alliance between Socialists and "Taff Vale bodies"). Sequel:—30 Labour Members are elected to Parliament (1906); and the Taff Vale judgment is traversed by Trades Disputes Bill in the same year (Economic field).—Again: a strike at Man-ningham Mills (1893) exposes the fact that Liberal and Conservative employers unite against workers (Economic field). Political sequence: Independent Labour Party (Socialist) is formed at Bradford Conference, also in 1893. Industrial sequence: the 1894 Trade Union Congress instructs Parliamentary Committee to promote legislation on a Socialist

basis.—Looking back further in time, we observe History repeating itself. In 1869 Trade Unions meet persecution by affirming need for Labour Representation. Political sequence: Labour Representation League formed during same year. Industrial sequence: Trade Unions legalised, in 1871.

The usefulness of analysing and charting History as a web of connected events, as a tissue of Nemesis, needs no appraising. It must be remembered, of course, that events in all four sections of a chronology must be geared up with each other (by lines or otherwise), although two sections only are here connected verbally. And it should also be considered that the "Directive" column holds a group of events which may be further subdivided into (1), the Intellectual; (2), the Moral; (3), the Aesthetic; and (4), the Emotional. Thus, in a chart prepared by the

LABOUR MOVEMENT, 1813-1913.

POLITICAL AND ALLIED SOCIALIST MOVEMENTS. (Physical.)	EUGENIC ACTIVITIES. (Genetic.)
<p>1911 Payment of Members of Parliament.</p> <p>1910 42 "Labour" Members in Parliament (through Miners' Members joining Labour Party).</p> <p>1909 Osborne Judgment (Trade Union political activity pronounced illegal).</p> <p>1906 Labour Representation Committee Renamed: "Labour Party." 30 L.P. Members of Parliament Elected.</p> <p>1904 "Clarion" Fellowship Founded (Organisation of Readers of "Clarion" for Socialist, Political and Social ends).</p> <p>1900 Labour Representation Committee (Political Alliance of Socialist and Taff Vale Bodies) Founded.</p> <p>1893 Independent Labour Party (Socialist) Founded at Bradford Conference.</p> <p>1892 First Socialist Member of Parliament Elected—John Burns (Socialist), London County Council.</p> <p>1888 (First) Two Socialists Elected London School Board.</p> <p>1885 Strong Socialist Propaganda (including the running of many candidates.)</p> <p>1883 Social Democratic Federation and Fabian Society Founded.</p> <p>1881 Democratic Federation Founded (chiefly advocating Land Nationalisation).</p> <p>1874 First Two Trade Union Members of Parliament Elected.</p> <p>1871 Secret Ballot Introduced.</p> <p>1869 Labour Representation League Formed.</p> <p>1868 Two Trade Unionists stand for Parliament as Independent Working Class candidates.</p> <p>1867 Household Suffrage Act enfranchises 1,300,000 extra voters.</p> <p>1864 "International" Founded (to unite the working men of all countries).</p> <p>1848 Chartist Movement Ends.</p> <p>1838 Chartist Movement Begins. Strongly Socialistic in character. Chief demand: Enfranchisement of Masses.</p> <p>1835 "Association of All Classes of All Nations" Founded (by Owen). The name "Socialism" first extensively used.</p> <p>1832 Reform Bill Passed. (Electorate increased by half-a-million).</p> <p>1817 Plan of Socialist Community laid before Parliament by Robert Owen.</p>	<p>1911 Maternity Benefit Instituted (30 Shillings) under Insurance Act.</p> <p>1908 Children Act (deals with infant life protection and prevention of cruelty, establishes juvenile courts).</p> <p>1903 Employment of Children Act (restricts employment under 14).</p> <p>1901 Factories and Workshops Act (deals with sanitation, hours and conditions of employment. Specially for children and mothers).</p> <p>1883 Local Government Board inaugurates policy of Emigrating Poor Children (chiefly Canada).</p>

Organisation Society and dealing with British history from 500 A.D. to 1913, (1) Scientific, (2) Religious and Legal, (3) Artistic and (4) Patriotic Thought are considered (under the heading of "Directive") in relation to the remaining three groups of national activities (the Vital, Physical, Genetic).

When History has been carefully examined

— and taught — on the lines of this sevenfold analysis, the young race of coming politicians will stand a fair chance of entering the fray properly equipped.

To complete their critical understanding of "cause and effect" in public affairs, however, they would have to learn a further lesson from the Organisation Society—viz., to examine events and judge them habitually in the light of their dualities.

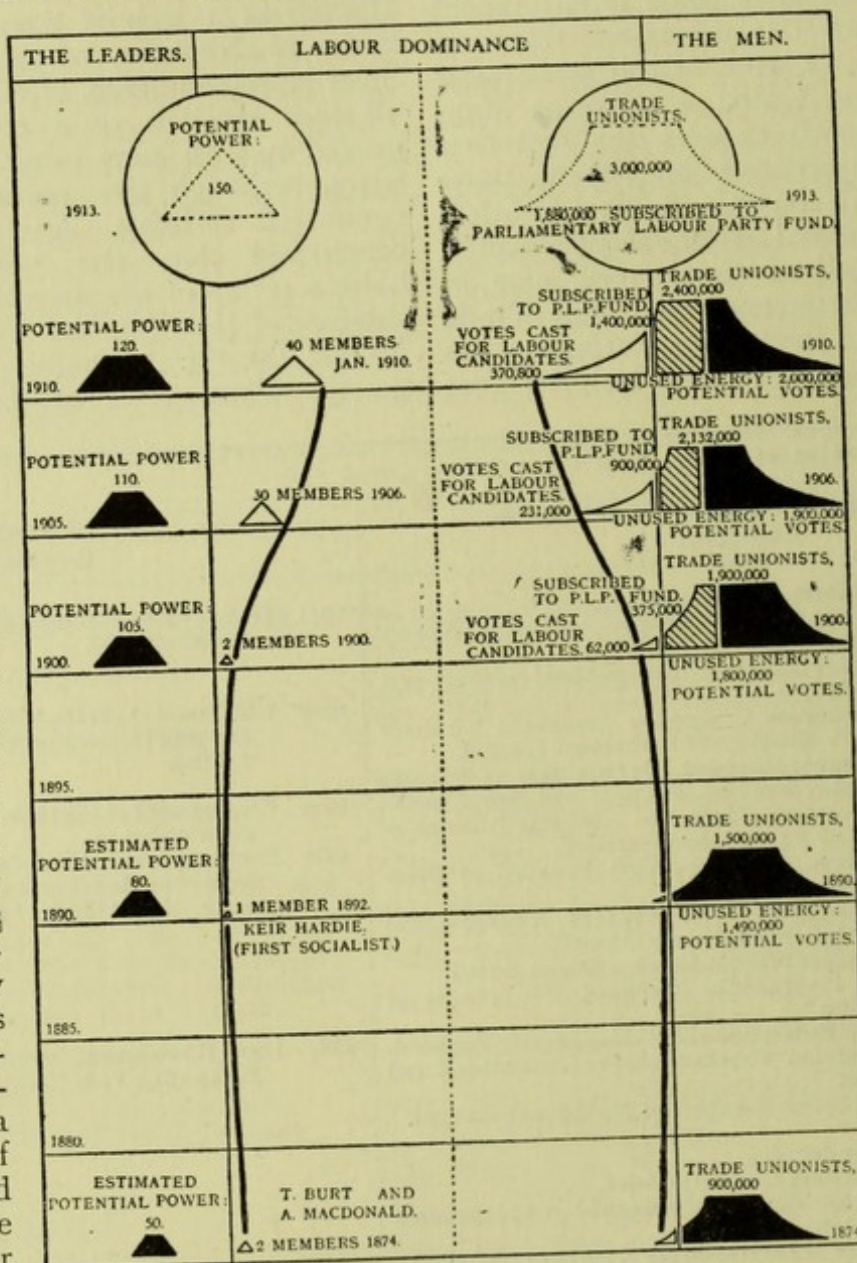
The accompanying "duality chart" illustrates the process. Supposing we propose to make a final estimate of the growth and position of the Labour power (after having analysed (1) its present forces; (2) its construction; (3) its functional weaknesses; (4) its past development), how should we proceed? According to the Science of Organisation everything in the world, being in some sort a product, requires for perfect understanding to be examined in the light of its practical dualities—the two opposite yet complemen-

tary forces (or circumstance or ideas) which begot it. Thus, Labour Power, in so far as it has successfully emerged as a separate political entity, may be regarded as the joint product of Politico-Industrial Leadership and Politico-Industrial following. If these twin forces pull from their opposite poles with equal force, Labour will be drawn forward

(towards its goal) along a perfectly straight line, the line of greatest efficiency: the path of power. But if the pull of these co-operative yet eternally opposite poles be variable and unequal, then the path of Labour will *not* follow the straight "line of greatest efficiency," but will move merely along a devious "line of least resistance:" the path of relative weakness.

To judge Labour, then, we must proceed to construct a Duality Chart. On the top left and right-hand corners of such a diagram we place the Dualities: here, "The Leaders" and "The Men." Exactly between the two, down

the centre of the Chart, we trace a straight line, the Theoretic Line of Greatest Efficiency. On the top of the Chart, just midway between the Dualities, and on the "Line of Greatest Efficiency," we place *the objective* of Labour Power, viz., *Labour Dominance*. Thus we have standardised both the objective of Labour and the direct path whereby it is to be reached



After which we can proceed to chart—according to our knowledge—the *real* path and position of Labour, relative to its fixed objective and to the settled line of greatest efficiency. (Should expert knowledge differ, a chart embodying the “averaged” expert knowledge can be set up.) The accompanying diagram reveals accurately the steady advance of Labour, and shows in figures exactly how far its powers are still in the ascendant: (the paying membership of the party has gone up by 330,000 in three years).

To conclude—when taken together, our Duality chart, the (previously issued) seven-fold Analysis of Labour Forces, and our Diagram of all the weak spots in the Labour

Organism, present a synoptic view of the whole movement which no system of thought other than the Science of Organisation could possibly produce. A bold statement, but a definite one! What facts confirm it? This, at any rate: from all over the world the Parliamentary Labour Party office gets bombarded with demands for information on the British Labour Movement. In meeting these demands it has been found that no survey exists even approximately as complete as that produced automatically by the Science of Organisation. Result: an order for a number of charts.—On this bedrock of common usefulness the Science of Organisation takes its stand.—On this rock of practicality it rests its claim.

BRITAIN'S PREROGATIVE.

By VIVIAN FINDLAY SMITH.

Do we in England realise the position of our country in this our 20th Century?

Our Geographical advantage has stood us so far in good stead, and we may fairly be said to have made good use of this in the building of our Empire.

But with modern Science curtailing the size of our Planet, making communication easier and outbridging distance, our position has been altered to no small extent, our monopoly period is over, our advantage has been equalised and we must be prepared to find our level in International Europe.

To this we may add the rapid growth of a great central European Power, as affecting our hitherto unchallenged position in world politics and economics.

The need for a highly civilised country to take the lead in matters relating to the federation of Europe is being felt, and the question arises as to the Power best capable of undertaking this mission.

The commercial interrelation existing at the present day (which Science has done so much to enlarge and solidify, in fact, make possible) has brought our Planet to a state of economic equipoise hitherto unattainable and an interdependence but scarcely realised.

That there are in Europe but two Powers who could, with any semblance of success, attempt to lead a European Confederation,

is but a fair saying, with which few would care to disagree. We mean the British and the German Nations.

It remains to be seen which of these two is best suited to lead the way. Generally speaking, a State whose policy (the reflection and expression of its National need) savours of the aggressive would be the least suited to the task, and this qualification we do not possess, whereas our cousins in Central Europe will, sooner or later, have to adopt an expansionist policy which is already to-day being strongly advocated by the Pan-German Section in the Reichstag.

On the other hand, we as a Nation have learnt many a dearly-bought lesson in the building of our Empire. The solidifying influence of Britain's rule has been well established; her individuality implanted on foreign soil, although originally aggressive, soon adapted itself to surroundings and allowed sufficient space and freedom to the Aborigines to enable a sound rule to be established.

Broadmindedness, coupled with an individuality of a sound character, which can improve but rarely depreciate those with whom it comes into contact, has made us the Colonisers we are to-day, none too aggressive or meddlesome, ready to learn as well as to teach, and consequently adaptable.

We are imperialists of a sound order with, as a basis of our Imperialism, a community of interest, without which no Imperial Scheme could stand the test of time.

Were England indeed to take this lead, she would only be continuing her original and legitimate course of action in the world without disturbances of a too serious character, being better equipped to carry out her policy than any other Nation through the medium of her well-worn channels, commercial, political and intellectual, which it has taken her such pains in the past to create.

We have been called the "Bourgeoisie of Europe," and correctly so, perhaps, if by this is meant the most democratic Power in Europe, in the sense of being the most all-round, large-hearted, understanding set of peoples in the West.

Britain is saturated with Territory. She no more requires expansion, except as a means to an end or as arbitrators in questions arising out of common interest with her neighbours or her dependencies, to which latter she is even to-day ready to grant Self-Government should they be fit to receive it.

In a word, our policy is not aggressive but pacific, and a federation of the Anglo-Saxon Race would prove the means of solidifying this policy.

Supposing Germany be capable of undertaking this mission, let us consider her chance of success.

Her geographical position, jammed in between France, Belgium, Holland, Russia and Austria, with no naval exit except on the Baltic, puts her primarily at a disadvantage. Her essentially military nature has grown up in accordance with her position in Europe, and her whole policy has tended in that direction to suit her needs. In later years she has deemed it necessary to possess a navy,

to what ultimate ends and for what purpose she only knows, but that this should be purely for defence or the outcome of her needs is a difficult thing to believe.

The only sane deduction one can make from her latest move is that it is distinctly aggressive and savours of the Pan-Germanists, and that she intends to expand at all costs.

The Pan-Germanic ideal is Central Europe for the Germans, Great Colonies for the Germans, the Ocean and Commerce for the Germans,—a truly aggressive ideal and, as compared with ours, one likely to disturb the peace of Europe and the world.

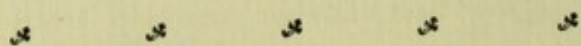
Were Germany to become the leading Power it would upset the whole equilibrium of the present day. The qualities requisite to colonisation are not inherent in every nation, *vide*: The Spanish fiasco, the French and Italian attempts. The Sceptre of Empire is handed over as a gift by the hands of Providence; it sometimes fails, and the only test is its retention by those to whom it has been tendered.

This is not a time to start attempts at Empire-building, but to organise and solidify existing conditions, to balance the various interests of Nationalities according to their respective values: and this applies to Europe as well as to our own Empire.

Which of the two Powers, Germany or Britain, is best fitted to undertake this task?

We, the Anglo-Saxons, must believe that Britain, with its well-worn channels of experience, is the best fitted. The Race which stands for Liberty and Freedom within the law as the potential ruling principle in the future evolution of Humanity.

Let us, therefore, pass on the watchword, "To cling together," amongst the clans of Anglo-Saxon blood, and prove ourselves to be the fittest among the Nations of Europe.



Everything to-day tends to an international life, but the clash of contending political fabrics endangers the whole movement. It is not the least part of the problem before statesmen to steer clear of actual war while the vast spiritual and dynamic changes old and new civilisations are alike undergoing, take place.

A SONG OF THE FORGE.

With clash and clangour by day and by night
 The hammer I wield.
 The anvil rings to my stroke of might,
 Like a foeman's shield.
 And ever red fires are blazing and roaring,
 And ever the sparks go leaping and soaring
 As I twist my metal,
 And fashion it strong,
 With sweat and with labour
 And fierce, wild song.



Dread hero-weapons I fashion with might,
 Crested helms for leaders in fight,
 And trumpets of doom, whose tempest-call
 Hurls foe on foe to his headlong fall.
 And I smite and I hammer,
 By day and by night,
 The anvil rings
 To my stroke of might.
 I twist my metal,
 I fashion it strong:
 With clash and with clang
 And with free, wild song.

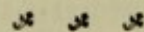


The bellows sigh and the fires roar,
 And the battle thunders and crashes;
 The leaping sparks blaze evermore,
 But the dead lie cold as ashes.
 And I toil and I hammer
 By day and by night,
 That the dead and the living
 Be served aright:
 The living, who groan for the gleaming cup,
 Filled to the rim, that the leech holds up,
 And the dead, who need for their last, long rest
 The metal cross on their ashen breast.



Oh hey! and the forge flames like the sun!
 Oh aye, but the work is scarce-begun.
 For as long as plough-share furrows the land,
 Or key is grasped by a wifely hand,
 Or cradle of steel, for a hero-child,
 Is rocked by a mother strong yet mild,

—So long must the smith toil, night and day,
 Nor wait for sleep, nor stop to pray!
 He must stand to the flame, in the furnace light,
 Till his head turns grey and his beard grows white.



Wherefore the forge roars, day and night,
 As the anvil rings to my stroke of might,
 Whilst redder glow mine eyes, like fire,
 And my veins swell out, as with inward ire.
 For I stand to the flame, in the furnace light:
 Subduing the devil and shaping the right.



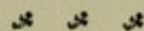
And *thus* must I evermore labour and fight:
 Through years that are long.
 Till Death from my hand the hammer shall smite—
 And still the song.
 And *then* the fires shall not cease roaring,
 Nor the sparks from leaping and flashing and soaring.
 For after me—cometh the Younger Man,
 The man who must finish what *I* began.



And *he* with clangour by day and by night
 The hammer shall wield:
 As the anvil quakes to his stroke of might,
 Like a foeman's shield.
 And e'en as the fires keep swirling and roaring,
 And the sparks go leaping and flashing and soaring,
 He shall forge the weapon
 And sing the song,
 To which the Earth
 And its Glory belong.



And then?—for love of the work that's done
 The forge shall be kept as a blazing sun.
 Clash and clamour must fade and die,
 But ever the sparks will leap to the sky
 And the furnace-fires keep roaring.
 For men—when the battle is over and done,
 When Truth is crowned and the Right has won—
 Shall say:—"We won by the Sword and the Song;
 They were forged in flame, and the smith was strong."
 Up, then, *keep* the fires a-roaring!
 Blaze, Joy! on our Songs up-soaring!



JAMES GRUN.

PROPORTIONAL REPRESENTATION.

By BELFRAGE GILBERTSON.

At the Annual Meeting of the Proportional Representation Society on April 30th Mr. Philip Snowden gave expression to the opinion that proportional representation has at last emerged from the amiable atmosphere of faddism, and has become "the accepted principle of representative government by political parties and parliaments." It is agreed that its introduction into the Home Rule Bill has brought it within the realm of practical politics. With characteristic caution we have allowed the system to be adopted in other countries, and have allowed some of the self-governing Dominions to make experiments in the same direction before we have ventured to give it a trial in England.

Up to now the chief objection to proportional representation has been its supposed impracticability, but this is a difficulty which disappears on closer acquaintance. In an article dealing with the subject in this month's *Nineteenth Century*, Lord Grey mentions the interesting fact that the Insurance Commissioners for England have determined that the election of representatives of insured persons shall be on the lines of proportional representation. Thus the smaller approved societies are accorded their just share of representation upon the Insurance Committees. The fact also that several Trade Unions have decided to apply the same principle to the election of their officers, committees and delegates, proves that its practical value is being appreciated. The artisan has been quick enough to see what has apparently been hidden from the view of other men, that his material interests could not possibly be looked after, nor his views adequately expressed by any body elected under the present system of absolute majority representation, which practically disfranchises the minority, however large, and which also by the transfer of a very few votes may change the representation from one side to the other. This is particularly noticeable where several unions of very unequal numbers join together for purposes of conference, or, it may be, in more permanent association. That branch or union having the largest number of members, can, under the system of majority representation, completely swamp any smaller union by

carrying off the whole representation. What is true of a Trades Union is also true of any other body of voters. Common justice demands that representation should be given *pro rata*, according to the strength of the different bodies, and that no considerable section of an electorate shall be rendered powerless to make itself heard.

Another grave defect of the majority system is the exaggerated power it bestows on a small minority party, holding the balance between two large parties, and which can turn the scale at an election. When this small minority-party is organised it can dictate to either party, destroying their freedom of action, and introducing all kinds of abuses. The vote, instead of being a privilege of citizenship, to be used intelligently and effectively, becomes a force to be manipulated to the advantage of the smallest number at the expense of the many who compose the larger parties thus controlled.

But is it not mental laziness rather than the apparent complication of the system which prevents it from being accepted? Must we continue to suffer from an imperfect political system because some of our citizens may not take the trouble to understand it? The discussions on proportional representation in Labour Societies have been keener than in any other political associations. The fault is not there, and if the members of the National Union of Railwaymen (numbering 200,000) and the members of the National Union of Clerks have found it advisable to adopt the system, and if the Insurance Commissioners are about to apply it to the appointment of County Committees, of which there are 120 in England and Wales alone, ignorance of the system among the electorate will not exist because of lack of opportunity of making its acquaintance.

Lord Grey points out in his article how the drawing of boundary lines affects the election of candidates, under the present system of majority representation. He says:—

"Sheffield is divided into five Parliamentary divisions each returning one member. 51,549 Sheffield electors voted at the last general election, 27,011 Liberal and 24,538 Conservative. The Liberals being in a majority were obviously entitled to the majority of representation. Owing, however,

to the way in which the boundary lines divided the five Parliamentary Divisions of Sheffield, the Conservatives, with a minority of nearly 2,500, were enabled to win three seats! If the boundary lines had been drawn differently, it is quite possible that the Liberals would have been able to obtain all five seats and the Conservatives, although entitled by their numbers to two seats out of five, might have been unrepresented and practically disfranchised."

In some other countries the deliberate gerrymandering of the boundaries of constituencies at recurrent periods of redistribution is a recognised part of political warfare. Although this practice in its grosser form is unfamiliar in this country, our political ethics do not forbid an ingenious party, although in a minority, so to take advantage of the boundary lines of constituencies and of the double qualifications of its adherents as to give its own supporters a majority in the larger number of the constituencies of an area, and thus win representation in excess of its true rights. The same inversion of representation which is the common experience of Sheffield has occurred over the whole area of the country in at least one general election, and at any time it may recur with fatal damage to the prestige of the House of Commons which we are asked to regard as the mirror and the mouthpiece of the nation. These grave dangers to the principle of representative government can be simply avoided by the amalgamation of a number of the single-member constituencies into larger ones returning several members, elected so as to secure the fair representation of majority and minority alike.

Not the least evil of the present system is the false impression created of the tendencies of public opinion. An overwhelming majority creates at once an exaggerated feeling of the strength of the successful party, whereas it may only be a proof of the uncertainty of fair representation. The false impression becomes ground for action and facilitates legislation neither desired nor anticipated by the country. Any instability or violent change of opinion is accredited to the electorate, and not to the faulty system. The "Machine" becomes all powerful, and the breach between the party organiser and the party leader grows wider. Freedom of thought is denied to members of Parliament, who, unless they conform to an adopted standard, or party ticket, are not eligible as candidates.

Proportional representation, the "representation of parties according to their strength," is based on the formation of multiple constituencies returning three or more members, according to the proportion of population. It gives the individual voter the right to transfer his vote, if not required, to a second or third choice, so that the true value of his vote is secured, and not thrown away either on a candidate whose total has already reached the quota, or on one who has received too little support to ensure his election.

"The number of votes sufficient to render certain the election of a candidate is called the quota. In a single-membered constituency the quota is one more than one-half, because, obviously the candidate who polls this number must be elected. Similarly, in a two-membered constituency the quota is one more than one-third, for not more than two candidates can poll so much; in a three-membered constituency one more than one-fourth, and so on. In general terms the returning officer finds the quota by dividing the total number of possible votes by one more than the number of seats and adding one to the result."

Mr. John H. Humphreys,

"Proportional Representation."

Proportional representation aims at making the House of Commons more truly representative of the mind of the country, and consequently more effective. It claims that men of courage and initiative would find a seat there, and that political freedom and sincerity would result. The elector would be free to choose as his representative a man with whose views he is in sympathy. The partisan spirit would not predominate and the time and energy of Parliament would be conserved for more effective legislation. The confidence of the country in Parliament, and the authority of the House of Commons, would be increased and legislation would proceed upon a more sane and efficient basis than is possible under the present system.

It has been said that the character of the electorate is of paramount importance, inasmuch as the character of the House of Commons is the outcome of it. At present the electorate have not a fair chance of showing what they can do with the House of Commons. Until the individual elector has a greater freedom of choice, and therefore a more real participation in national affairs, the House of Commons will not be a true representation of the people.

A MOBILISATION CHART.

By E. COWLEY.

It is the object of this chart to simplify the presentation of regulations for the mobilisation of the Regular forces. These are at present complicated and confused for the following reasons:

- (a) They are scattered over half-a-dozen different books and manuals, without any clue to their whereabouts.
- (b) They are arranged upon no common or intelligible system.
- (a) has been overcome by the inclusion in the one chart of *all* regulations upon the subject, wherever existing. Their place in the existing official regulations is traceable by means of references given.
- (b) has been overcome by the application of a simple and practical system based on the "Science of Organisation."

Description of System.

The Mobilisation Regulations describe a number of tasks or duties to be performed by various persons.

For practical purposes it is necessary to classify these duties in both of two ways:—

(I.) According to their intrinsic nature.

(II.) According to what person or persons perform them.

That is to say, taking for argument's sake the duties connected with the issuing, etc., of clothing and necessaries on mobilisation.

It is important to have all these duties grouped together in one column, so that anybody wishing to make himself acquainted with the system of issuing clothing and necessaries can do so at a glance.

And it is equally important to have all the duties of, say, the O.S.C. units in connection with clothing, and of the O.S.C. Details, etc., etc., in separate columns, so that the O.S.C. units can see what they have to do, and the O.S.C. Details can see what they have to do without being troubled by having to extract it from a mass of information which does not concern them.

These two principles have been combined to make a chart, as shown by the following diagram:—

Duties in connection with:—

	CASH.	PERSONNEL.	CLOTHING.
Records ...	S	T	U
O. C. Depot	V	W	X
O. C. Unit...	Y	Z	A

It will be seen that if it be desired to find on the above diagram (which is a partial reproduction of the chart) the duties of, say, the O. C. depot in connection with CLOTHING, one has only to look at the square marked "X" where they are shown fully.

In addition, the whole mass of material has been divided into two sections.

Section I. including all duties to be performed in peace preparatory for mobilisation, and constitutes the "Preparatory chart."

Section II. including all duties to be performed on the actual order to mobilise, and constitutes the "Mobilisation Chart."

Notes.

(A) The confusion in the existing Regulations (which is extreme), is almost entirely due to the neglect to use any common intelligible system such as above.

Since not even the Index is systematic, it is impossible to say for certain that one has obtained all the information upon any given point without reading the whole volume from cover to cover; and even then there is no guarantee that more is not lying hid in other manuals to which no reference has been given.

(B) The rearrangement has been made in the form of a large chart, for clearness of demonstration, but the system can be equally well used in book form.

Thus, taking the above diagram, a short key chart similar to it could be printed in the front of a book. Anyone wishing to find out what the O.C. unit must do in connection with "Cash" would look to the chart, find the letter Y, and then go on to the other chapter headed Y, where the matter in question would be found printed straight ahead in ordinary book form.

(C) Difficulty has occasionally been found in discovering exactly what was intended by the framers of the Regulations. Especially in the Remount Manual uncertainty exists as to *who* is intended to perform certain duties; the manual leaving it quite undefined.

This difficulty would, of course, disappear if the Regulations were written in the first instance on the system used in the chart.

The Chart may be seen at the offices of the Organisation Society.

THE PHYSICAL MEASUREMENT OF RECRUITS.

By COL. B. R. WARD, R.E.

In the last article on this subject in the February number of the O. S. REVIEW, the following formula—being a modification by Captain Balck, R.A.M.C., of the original formula devised by Pignet—was suggested for correlating the height, weight, and chest measurement of recruits

$$F = H - W + C$$

where H is the height in inches

W is the weight in lbs., and

C is the chest measurement in inches at maximum inspiration.

The following Table was put forward as a method of transforming the Factor (F) so found into a Physical Figure of Merit (M).

F	M
over 120	100
110-120	90
100-110	70
90-100	50
80- 90	30
70- 80	10
Below 70	0

The Physical value of batches of recruits could then be compared by charting the position of the man $\frac{1}{10}$ from the top, of the middle man, and of the man $\frac{1}{10}$ from the bottom of each batch.

One advantage of charting results is that the records of a long series of years can be seen at a glance, whereas ordinary returns submitted to Headquarters in the usual manner tend to get lost sight of under a mass of subsequent returns, and are very soon forgotten altogether.

The desirability and advantage of a continuous record of physical measurements recorded in some standardised manner is very great. For instance, the question of the deterioration or otherwise of the national physique, the influence of town and country on physical development, the comparative physical value of recruits from different parts of the country, the effect on physique of the recruits' course of gymnastics and training, and many other questions of great interest and national importance could be authoritatively answered.

No doubt many attempts have been made to answer these and similar questions, but owing to unsatisfactory methods of recording results, none of these questions can be said to have been satisfactorily tackled.

One such attempt may be recorded here.

Army Order No. 108, of June, 1903, is worded as follows:—

“In order to compile a return which will be called for annually, every recruit, whose final approval for any branch of the Regular Army dates subsequent to the 31st December, 1902, will, immediately on completion of six months' service, be carefully re-measured as to height, chest measurement, and weight, and a slip with these particulars thereon recorded will be attached to each man's original and duplicate attestations.”

These returns were compiled for the next four years, and were then ordered to be discontinued. It was perhaps found that the labour of compilation of the general Annual Return from these various slips was not justified by the results obtained. In any case the last Annual Return for the Royal Engineers in which this information is given is that for the 1st October, 1907.

In this Return the information is given in tabular form as shown below:

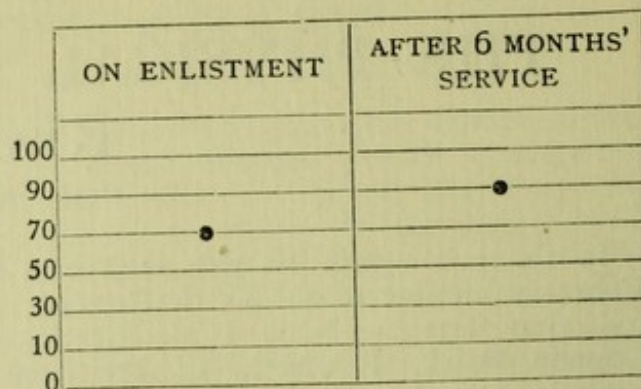
		Measurements on Enlistment.	Re-measurements after 6 months' service.
Number of men measured		586	586
HEIGHT	TOTAL	3267.4.625"	3294.10.5
	AVERAGE	5' 6.908"	5' 7.471"
WEIGHT	TOTAL	79,379 lbs.	83,732 lbs.
	AVERAGE	135.459 lbs.	142.887 lbs.
Chest Measurement (maximum.)	TOTAL	21,172.5"	21,796"
	AVERAGE	36.1305"	37.194"

The form in which this information is given is certainly clumsy, and a single average figure gives no information whatever as to the number and amount of variations from the mean figure. Working out the figures in accordance with the formula suggested above we get a Physical Figure of Merit of 70 for Recruits on Enlistment and of 90 after 6 months' service.

In Chart Form the information would be given as follows :

Physical Figures of Merit

R E Recruits 1st Oct., 1906-1st Oct., 1907.



The information given in this form is more easily and quickly grasped, and far more detail could be given without sacrificing unduly the simplicity of the return.

THE SCIENCE OF ORGANISATION AND PUBLIC HEALTH.

A PAPER COMMUNICATED BY COL. B. R. WARD, R.E., TO THE CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH, PARIS, 1913.

The value of the Science of Organisation in relation to Public Health is seen in the accompanying Chart of the National Health Insurance Act.

The Chart, by making clear the provisions of the Act in relation to all persons coming under its jurisdiction, must necessarily be of great value to all whose function it is to administer the Act, or to carry out its provisions.

Public Health depends not only on efficient administration, but also on intelligent co-operation on the part of the general public.

A Chart which supplies information on the subject of an Act of Parliament dealing with Public Health, and supplies this information in such a manner as to be easily found by ordinarily intelligent persons, cannot fail to be of value in raising the efficiency of the Act, and therefore in raising the general level of Public Health.

The distribution of information relating to provisions for the improvement of Public Health is a problem of difficulty, owing to the fact that each succeeding Act of Parliament tends to become more technical and intricate than its predecessors.

In the past the administration has been almost entirely of an official character, and the public have only been asked to co-operate to the extent of their elected representatives on local councils.

The advent of the National Health Insurance Act has brought more or less into active co-operation some fourteen million people, inasmuch as the local management of their societies is in their own hands, and the provisions whereby benefits are increased when the amount of sickness is small, or a compulsory levy is made when sickness is extensive (and increases cost of administration beyond the ordinary rate), will obviously tend to give a more active interest in health matters to the body of insured persons.

The National Health Insurance Act is probably the most intricate piece of legislation ever presented to the public for compulsory digestion, and one hundred million would be a low estimate of the number of explanatory pamphlets that have been issued exclusive of legal commentaries.

The majority of these pamphlets, however, only deal with the subject piecemeal, and fail, as the legal works do, to give a general and comprehensive survey of the entire Act.

Under the direction of Mr. Marshall Bruce-Williams, a Chart has been prepared, to fill this need of a general survey, and at the same time give an analytic view of important details of the National Health Insurance Act.

The Chart was prepared on the Axiom of the Science of Organisation, a new Science, invented by Mr. Bruce-Williams.

The Science is founded on an Axiom and three Principles. The Axiom of the Science is that "All Society is an extension of the Individual," and the three Principles are of "Degree," "Universal Duality," and the "Line of Least Resistance."

The Principles of the Science are not brought into full use in the Chart, so it is unnecessary at the moment to explain them further; the use of the Axiom may be summed up in a few words:—The organisation by function of the individual is, by analogy, the key to the organisation of Society, and to the structure of the universe.

For purposes of analysis, the Individual may be divided into four main functions:—The Brain and Nervous System, "the *Directive*"; a Nutritive and Circulatory System, in the new Science named the "*Vital*"; the Bony and Muscular Structure, termed the "*Physical*"; and a reproductive system, Sex, termed the "*Genetic*."

The individual is thus divided into four factors "*Directive*," "*Vital*," "*Physical*," and "*Genetic*."

The "*Directive*" is further given four aspects, "*Intellectual*," "*Moral*," "*Æsthetic*," "*Emotional*"; this gives seven factors in all for classification, and by the simple process of drawing an analogy between the functional structure of an individual and the relative functional structure of an Act of Parliament we have a method of co-relating and classifying material, that is elastic enough to take in any conceivable idea, and place it in relation to any other idea; and is basic inasmuch as it is founded on nature; the four main divisions running through the whole world of organic life.

The structure of the Chart of the Insurance Act is extremely simple; the substance of the Act is first classified under the seven functional divisions, and arranged in vertical columns; these columns are then further sub-divided into horizontal layers or strata corresponding to the groups of individuals brought within the jurisdiction of the Act.

In the Chart, the Commissioners occupy the top layer, the Committees the second, the Approved Societies the third, the employers the fourth, and the insured persons the fifth and lowest layer.

Thus an insured person obtains all necessary information in the lowest layer, (made up of the bases of the seven columns). If, however, he wishes to know the entire operations of the Act in any particular direction, he has only to glance up the column dealing with the subject he wishes information on, and its aspect in reference to each group of persons will be found as the column penetrates upwards through each of the successive layers dealing with different groups of persons.

One may draw an analogy between the Chart and a map of the world. In the Chart the functions of the Act correspond to the longitudes, and the groups of persons brought within its operations correspond to the latitudes.

The following is a summary of the subject matter dealt with in each of the seven columns.

Intellectual:—Research arrangements, reports, compilation and distribution of statistical and other information for official use; Lectures, pamphlets and other means of distributing information relating to health, etc., to the general public. The lower section of the column gives details of cases in which the insured person has the right to choose between two or more methods of receiving benefits, etc.

Moral:—Legal procedure and formalities, regulations and certificates, schedules of persons to whom insurance is compulsory, and those who are exempt.

Æsthetic:—The Ideals of the Act; the prevention and cure of sickness.

Emotional:—Provisions for dealing with disputes between persons brought within the jurisdiction of the Act.

Vital:—Financial provisions, the collection and amount of contributions, and the distribution of medical benefit, drugs, appliances, etc,

Physical:—Constitution of various bodies set up by the Act, general management and administrative arrangements.

Genetic:—Special provisions dealing with married women and children, maternity benefit, etc.

The good reception of the Chart on the part of the Press and the Public generally indicates that its system of analysis has been found practically useful.

It will probably be followed by a second Chart dealing with regulations under the Act which affect Doctors and Chemists.

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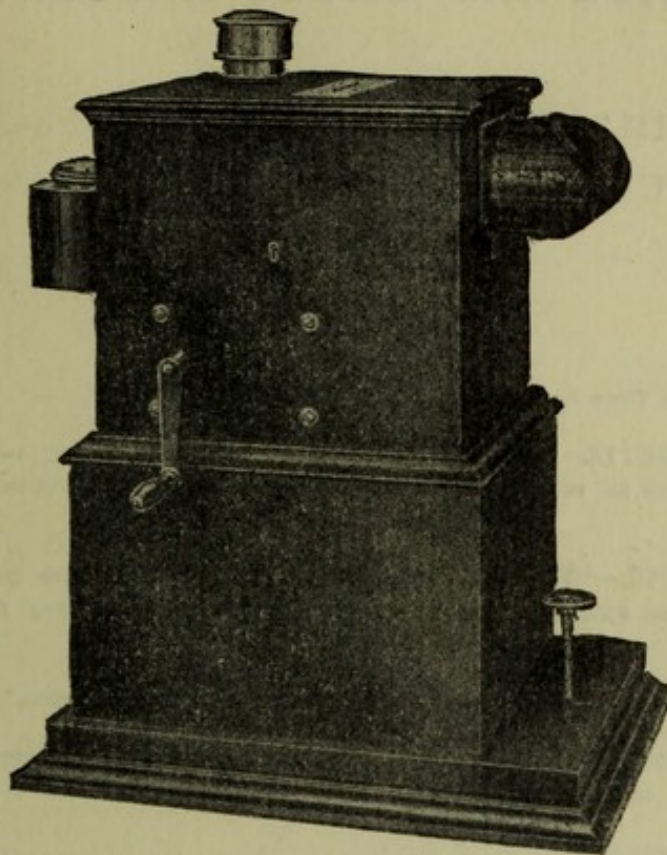
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THE O.S. REVIEW.

(Supplement, June 1913).

ROADS ORGANISATION.

This Supplement to the O. S. REVIEW has been compiled as an illustration of the manner in which the Science of Organisation, based upon Three Principles and an Axiom, would handle the data of the Roads of all countries. The work has been carried out by the Organisation Society in order to make the Methods of that Society known to the Members of the Roads Congress.

Any International Method, to be permanent in value and use, must be a Scientific Method, and the reduction of the Principles of Organisation to a Science which can be taught necessarily provides such a Method. The new Science of Organisation, teachable to students, either by correspondence or in a Special College for Training, or as a course given in National and Private Schools, is of such world-wide importance, that the opportunity provided by the Meeting of the International Congress on Roads in England has been taken advantage of to illustrate its Methods.

Members of the Congress are cordially invited to visit the offices of the Society, between the hours of 10 a.m.—6 p.m., 15-16, Buckingham Street, Strand, London, W.C.

THE CONSTRUCTION AND

PRIMARY ANALYSIS.

(Intellectual.)

ROAD SCIENCE.

Data concerning the purely intellectual processes in connection with road making and management, such as the principles of road engineering, etc.

(Moral.)

ROAD LAW.

The legal provisions which govern roads administration ;—Acts of Parliament, departmental regulations and local bye-laws.

(Aesthetic.)

ROAD ART.

Road Engineering viewed as a technical art, i.e., technical institutions devoted to developing and teaching road making, etc.

(Emotional.)

ROAD CO-OPERATION AND PUBLICITY.

The relations between Road Authorities and the outside world.

(Vital.)

ROAD TRAFFIC AND FINANCE.

The income and expenditure in connection with the maintenance and working the Roads and the circulation of traffic so far as it affects annual expenditure.

(Physical.)

ROAD CONSTRUCTION.

Data respecting construction of the Road, and capital expenditure.

(Genetic.)

ROAD LABOUR, PLANT AND MATERIALS.

Labour, plant and materials used in the construction and repair of Roads.

The system used in compiling this Chart provides a comprehensive classification of Roads data, based on the analogy between the natural functions of man and the objects of his activity. The primary analysis is a simple analogy of functions. The secondary analysis is an amplification of the first, the material of which is further classified by sub-dividing each of the separate functions into seven, using the same principles in a subsidiary sense, as are used in the main analysis. This method provides an infinite number of sub-divisions where required, and has the advantage of adapting itself to the detailed work of a single department, or the entire field of activity of a gigantic administration.

ADMINISTRATION OF ROADS.

SECONDARY ANALYSIS.

(Intellectual.)

ROAD SCIENCE.

Theory and Scientific Principles. National and International Information Bureaux. Circulation of Data; Libraries, Road Bibliography. Collation of Data; Preparation of Reports and Books. Collection of Data. Research bodies (Experiments).

(Moral.)

ROAD LAW.

Laws, etc., affecting *a* Road Science, Education, etc.; *b* Legal Procedure; *c* Roadside and Advertisements, etc.; *d* Road publicity: notifications to public; *e* Traffic and Finance; *f* Construction and management; *g* Road labour and materials.

(Aesthetic.)

ROAD ART.

Technical instruction in the development of the Art of Road engineering. Regulations to secure efficiency in Road making and upkeep. Public standard of taste as to road efficiency, including appearance. Advertisement restrictions, etc. Technical institutions: for promoting standard of efficiency in Road making.

(Emotional.)

ROAD CO-OPERATION AND PUBLICITY.

Maintenance of relations between road authorities, road users and general public: publicity arrangements. National and International Roads Congresses, Roads Improvement Societies, etc., and their interchange of information and opinions.

(Vital.)

ROAD FINANCE.

Expenditure.

Science: collection of data, etc.
Legal expenses: Licensing, etc.
Improvements: Treeplanting.
Affiliation fees to Congresses: Publicity expenses.
Maintenance: repairs, cleansing, watering, lighting, etc.
Administration, Plant.

Income.

License fees. Fines, etc. Fees for Drivers' certificates.
Rates.
Government Grants. Sales of Materials, Road Sweepings, etc.

Road Traffic.

Knowledge of road: Maps and guide books.
Control of Traffic:—Speed limits, Lighting of Vehicles.
Circulation of Traffic:—Censuses.

Classification of Traffic:—Vans, Traction Engines, Carriages, Motor cars, Carts, Motor Buses, Trams.
Manufacture of Vehicles:—Restrictions on design.

(Physical.) (Public Authorities and Staff.)

ROAD CONSTRUCTION.

Data as to organisation, numbers and classification.
Conditions governing election and duties.
Technical qualifications of Councillors.
Financial relations with other bodies.
Administrative relations with other bodies.
Methods by which members of road authorities are recruited.

Road design, methods of construction.
Utilisation of natural advantages: use of trees and grass sides.
Structure of roads; character, shape and dimensions.

(Genetic.)

ROAD LABOUR.

ROAD MATERIALS.

Knowledge of profession or trade.
Discipline.
Conditions of appointment.
Skill at trade.
Technical qualifications.
Esprit de corps.
Scale of pay.
Physical fitness.
Apprenticeship and training.

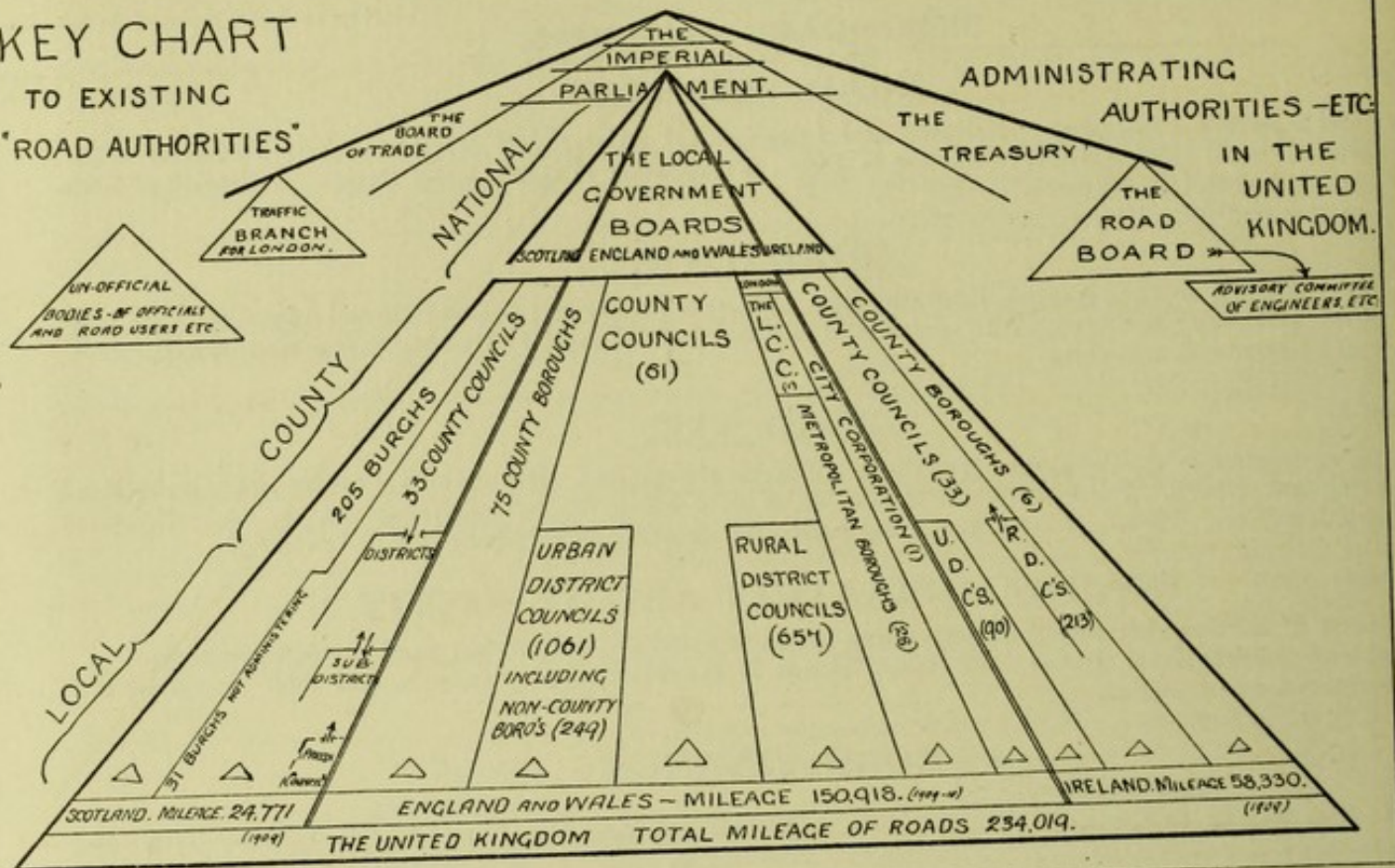
Identification, nomenclature, classification and data re various materials.
Natural laws governing their behaviour, atmospheric conditions, gravity, etc.
Standard of quality required by specification.
Binding qualities.
Durability under traffic, etc., conditions.
Physical structure: dimensions, shape and chemical properties.
Place of origin: cost at source of transport and cost at site.

Road Plant.

Data as to methods of use: instructions, etc.
Control required.
Efficiency. Strain. Load.

Machine or appliance, etc.: construction, capacity, measurements.
Manufacturer, place of origin and cost.

KEY CHART TO EXISTING 'ROAD AUTHORITIES'

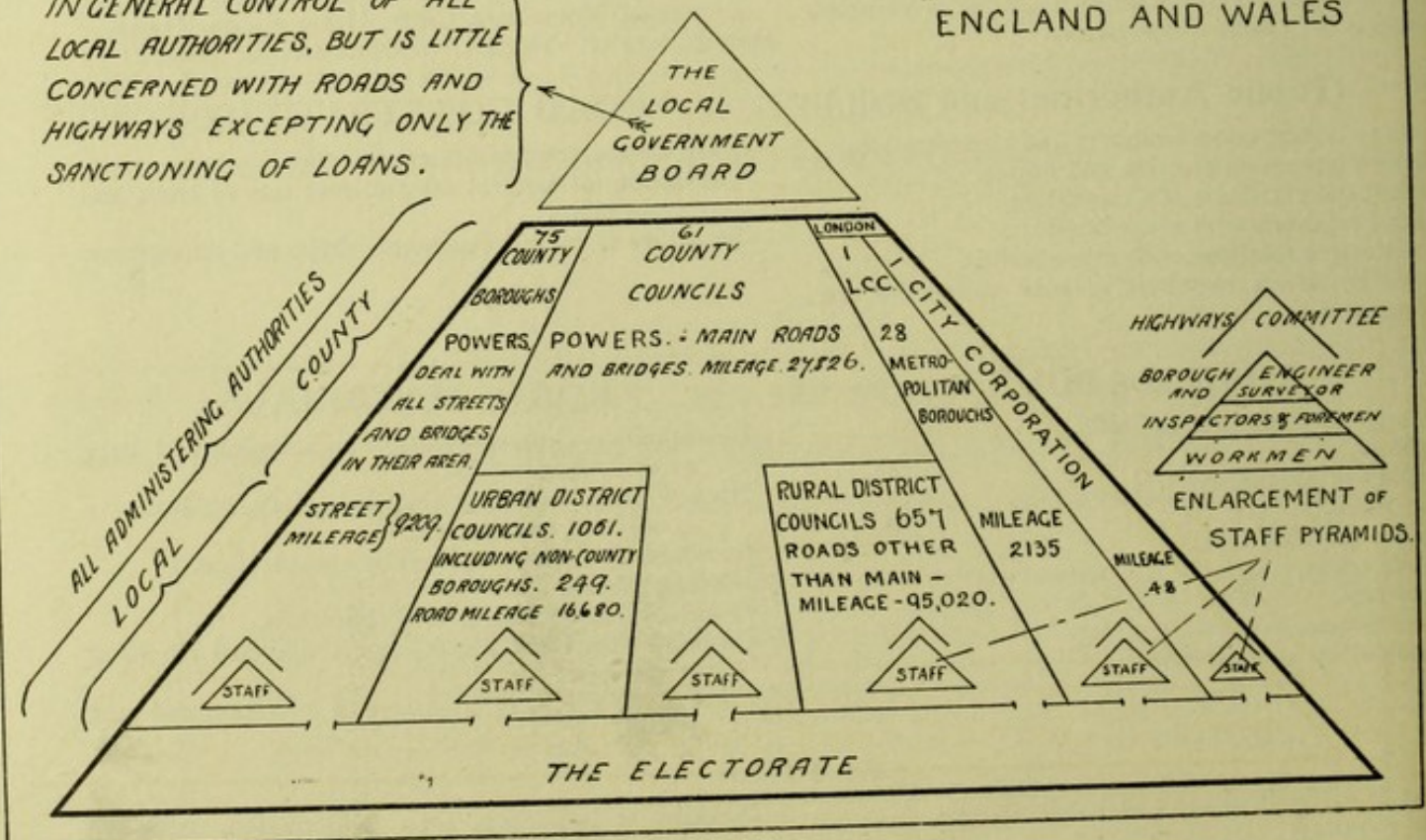


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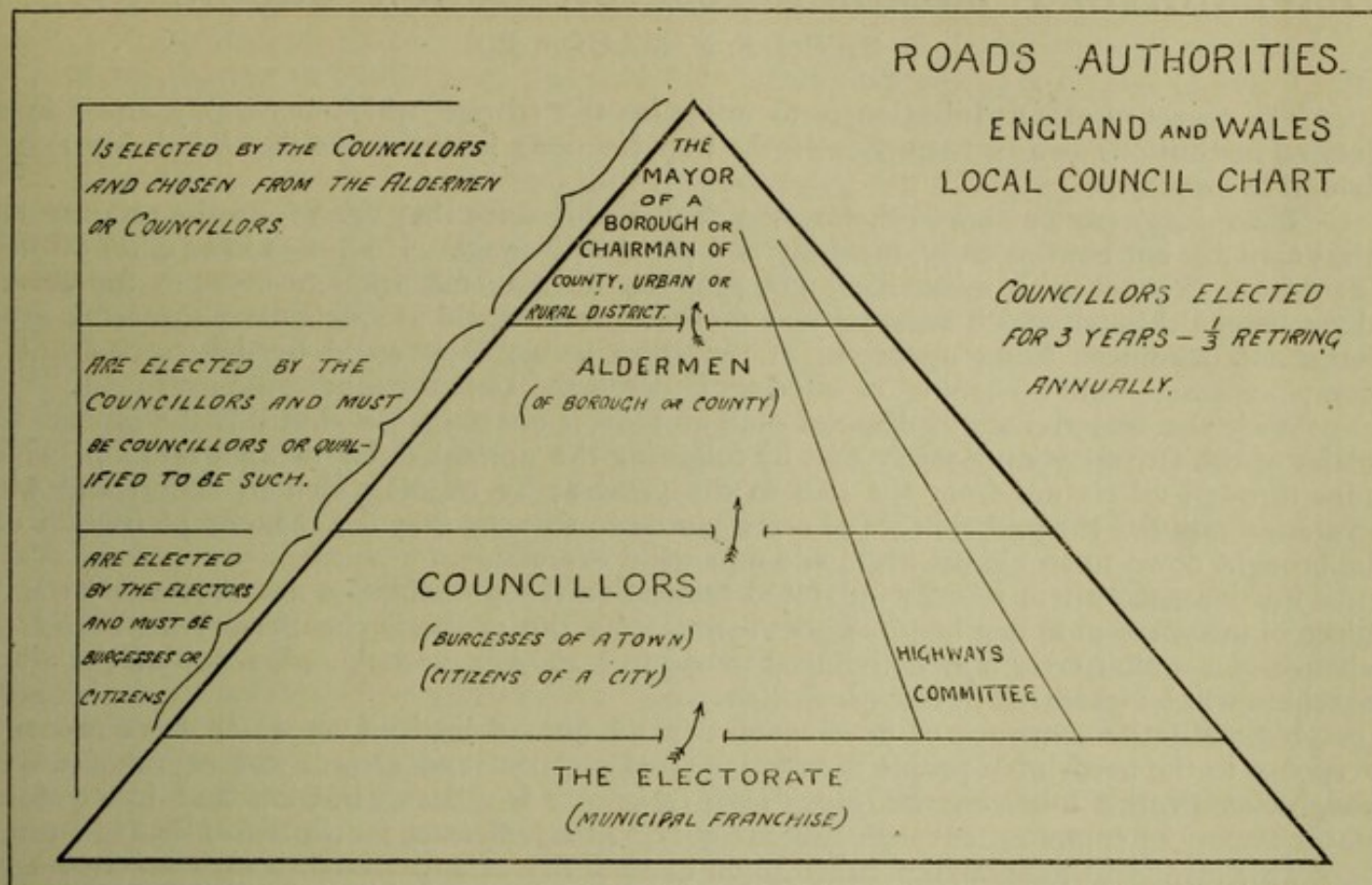
Explanatory Note see page 7.

ROADS AUTHORITIES ENGLAND AND WALES

IN GENERAL CONTROL OF ALL
LOCAL AUTHORITIES, BUT IS LITTLE
CONCERNED WITH ROADS AND
HIGHWAYS EXCEPTING ONLY THE
SANCTIONING OF LOANS.

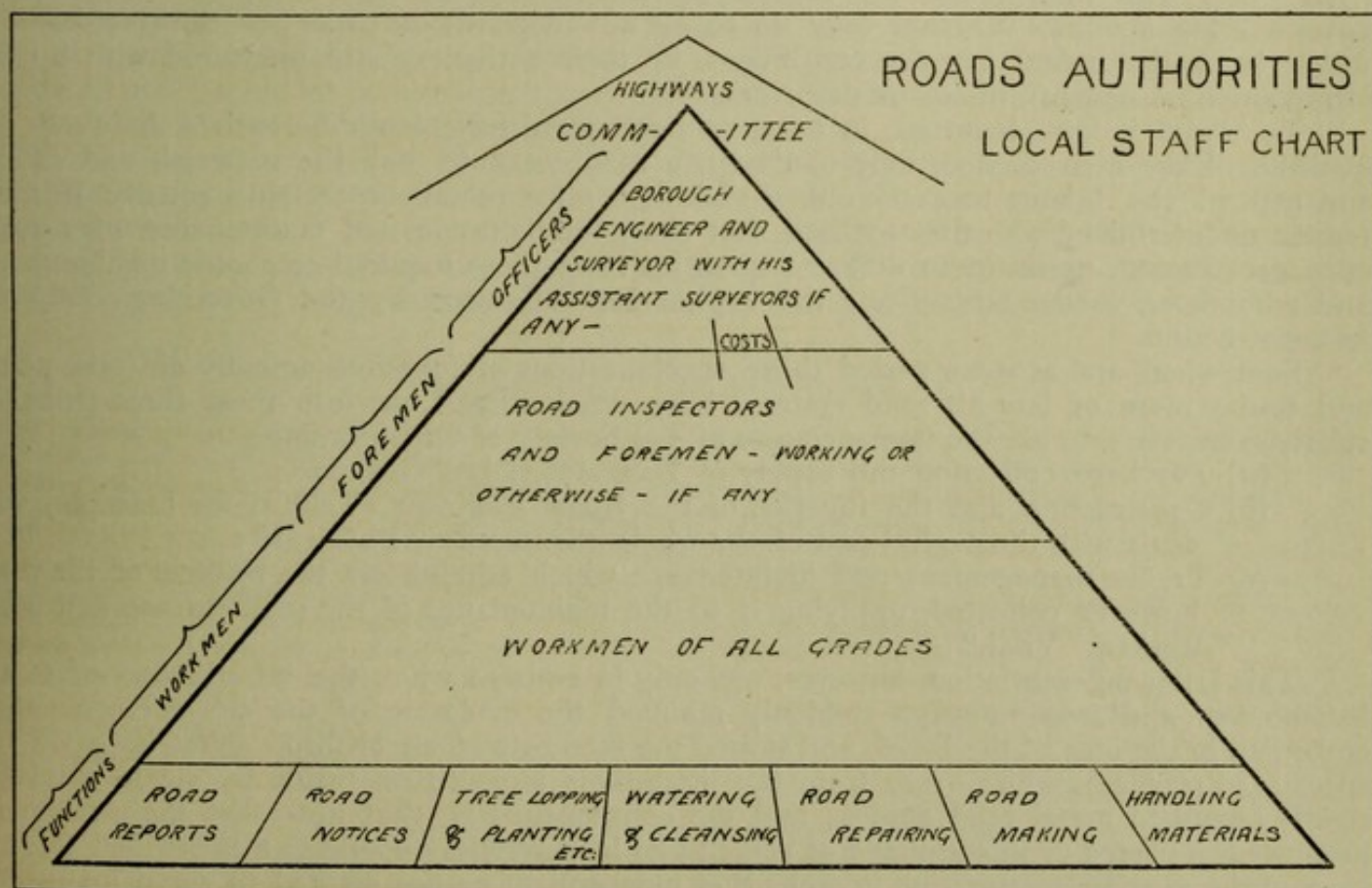


No. 2.



No. 3.

Explanatory Note see page 7.



No. 4.

EXPLANATORY MEMORANDUM ON ROADS ORGANISATION.

By Col. F. N. MAUDE, R.E.

The object of all Organisation is to minimise the friction which inevitably arises in all human institutions as a consequence of the imperfections in the tools the Administration is bound to employ.

These imperfections are in themselves unavoidable since they arise from the primary fact that men are not born morally, mentally and physically equal. If all men in an office or other institution thought with mechanical precision on all subjects, friction between the several departments through which organisations do their work would at once disappear—for every letter and document being appraised at the same value, each could be duly sorted out in correspondence—and no conflict of interests between the Departments would ever arise.

With the material at our disposal such an ideal is unattainable—but it is the essence and claim of the Organisation Society that by following the normal order of all evolution, which runs through all Nature from the less to the greater; by training men to understand what evolution means—the probabilities of error can be so reduced that the chances of friction can be brought down to an almost negligible numerical expression.

For instance—if in a badly organised Institution the probabilities are that one letter or piece of information in one hundred goes astray,—by the methods the Society advocates the chance of a similar error may be reduced to one in a million, and the efficiency of the whole machine will be increased in due proportion.

Normally the sequence of development in all human institutions which have grown in response to the needs of a people is as follows:—By “trial and error,” and no other way, a rough classification following the *line of least resistance* has been attained, and has endured until competition compels men to substitute a *line of greatest efficiency* for the line of least resistance.

This means in general the substitution in authority of a personality with an instinctive grasp of first principles for the ordinary individual governed solely by routine.

This dominant personality is for the time being the “Artist” in his own line, and his “Art” dies with him unless his contemporaries succeed in discovering the laws which governed his action. Whether they do so or not depends on whether the factors with which he had to deal remain continuous in their action, or are interfered with by the introduction of new inventions or discoveries.

To whom it first occurred, in times almost prehistoric—to differentiate between the qualities of the men needed, first to design a road, next to buy the material, and collect and control the labour to carry out the design, must remain uncertain—equally it must remain undetermined who first realised that the administration and maintenance of a road, once constructed, needs quite different qualities from those required to choose its alignment, and administer, to the best effect, the capital sum allocated by the Governing Body for its construction.

Somewhere and at some period these specialisations of functions actually did take place, and to-day more or less all road systems have differentiated out into these three principal subdivisions, viz.—to use the nomenclature of the Society of Organisation—

- (a) Purchase, collection and supply of Raw material=“Genetic”;
- (b) Construction and the function of the Road Engineer (Telford for example) who deals with the capital cost of the whole alignment=“Physical”;
- (c) Traffic management and maintenance which administers the revenue of the road, however collected, applying it to the maintenance of the road surface and other works=“Vital.”

This latter differentiation, however, was only in embryo when the introduction of steam locomotives and iron railways suddenly maimed the evolution of the original conception embodied in the idea of the Road, and turned the intellects of all civilised countries upon the specialised problems which arose from the limitations imposed on traffic by steam carriages rigidly bound to metal road guides; and the consequence is, that now that the mechanical progress has placed us in command of vehicles no longer rigidly bound to a prescribed track—we find the existing organisation in a chaos of independent unities created to serve many and widely different purposes, and totally lacking a central directing organ—such as has evolved itself in the more highly specialised form of communication, viz., the Railroad.

The point of view of the Organisation Society is briefly this. Had the continuity of growth of the roadways not been interrupted by the invention of the railway—the evolution of the national roadways would have followed the natural law—viz., as traffic on the roads developed, the need of a directive organisation would have asserted itself long ago, and this need would have been met, first by the evolution of a publicity department—(corresponding with "Emotional" in O.S. terminology)—for supplying information regulating traffic—ultimately with the special advantages to the users as in the case of the publishing and advertising departments of modern railways. Next would have followed a Department standardising practise.—Practise of construction—of maintenance, of qualifications of employées, and so forth. This would have taken the place of the "inspectorate" in modern War Office practise—a function which has only recently been universally recognised, which in the O.S. system—fills the column "Æsthetic."

Growing traffic would presently have brought the isolated roadway associations into conflict with each other and the public, and to meet this a legal department would have had to evolve itself—corresponding to the O.S. heading "Moral."

Following this would have been the formulation of Theory and Scientific Principles (Road Science), corresponding with the O.S. intellectual.

Lastly would have come the need for a central organ, uniting and controlling all, fulfilling in fact the same function as the cerebellum of the brain in the human body—the department to which all other departments report, and from which each receives the instructions needed to harmonise the working of the whole body. This controlling authority is, in all industries, the Board represented by the General Manager, functioning through a secretarial staff, organised in branches corresponding with the several departments to be controlled.

A glance at the chart showing the existing Road organisation of the country reveals at once where the source of our present weakness lies.

Organisation cut off short when, owing to the causes above specified, following the normal law of evolution under continuous conditions, the Vital, *i.e.*, the Traffic Department, had been evolved—and because railways diverted competition from the roads, no immediate need for Directing authorities arose.

Moreover as the growth of the road net suddenly ceased, the need for Engineering talent in construction, *i.e.*, for the Physical, lapsed also and all the work of keeping the average road in working order could be economically managed by the Traffic and Maintenance Department, viz., the "Vital" and the storekeeper and labour department, *i.e.*, the "Genetic."

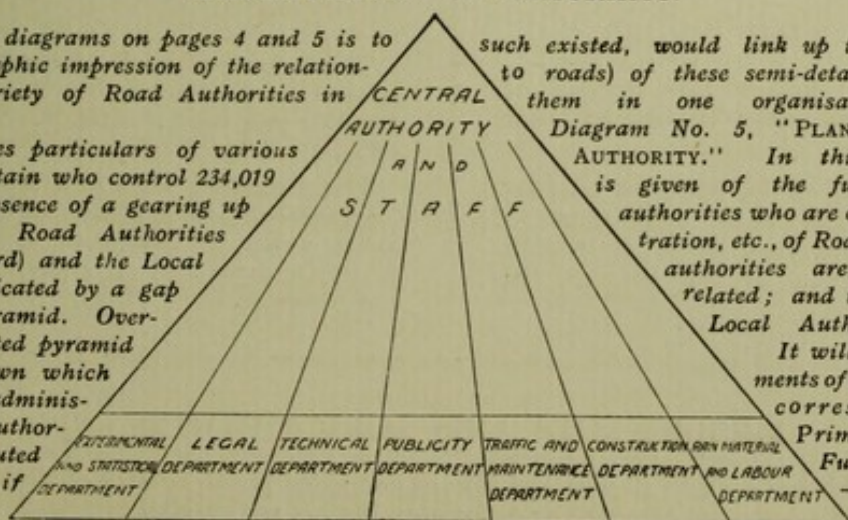
Meanwhile as fresh life blood began to flow along these neglected arteries of communication, new questions and problems arose which naturally could only be referred to the existing departments—*i.e.*, the "Vital" and "Genetic"—and the whole organisation becoming congested began to cry out for fresh departments to meet these increasing demands, and the initiation of the Road Congress is the first answer to this cry for development.

EXPLANATION OF DIAGRAMS.

The purpose of the diagrams on pages 4 and 5 is to convey to the mind a graphic impression of the relationship, structure and variety of Road Authorities in Great Britain

Diagram No. 1 gives particulars of various authorities of Great Britain who control 234,019 miles of roads. The absence of a gearing up between the National Road Authorities (Local Government Board) and the Local Road Authorities is indicated by a gap near the apex of the pyramid. Over-shadowing the decapitated pyramid various bodies are shown which to some extent affect the administration of the Local Authorities. A properly constituted Central Road Authority, if

such existed, would link up the functions (in relation to roads) of these semi-detached powers, and embody them in one organisation, as indicated in Diagram No. 5, "PLAN FOR AN IDEAL ROAD AUTHORITY." In this diagram a synthesis is given of the functions of the various authorities who are concerned in the administration, etc., of Roads. The various National authorities are, at present, quite unrelated; and their jurisdiction over the Local Authorities is very limited. It will be noted that the departments of the Ideal Central Authority correspond with the seven Primary Divisions in the Functional Analysis Chart—page 2.



No. 5. PLAN FOR AN IDEAL CENTRAL ROAD AUTHORITY

The Organisation Society,

(FOUNDED 1912)

15-16, BUCKINGHAM STREET, ADELPHI, W.C.

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* The above form the Executive Committee.

ORIGIN OF THE SOCIETY.

The Organisation Society owes its existence to the formulation of a new Science—that of Organisation. The Science of Organisation was invented by the founder and Life President of the Organisation Society—Mr. Marshall Bruce Williams.

PRINCIPLES OF THE SCIENCE.

The Science of Organisation is based on the Axiom that "Society is an Extension of the Individual," and on three Principles: of Degree, of a Universal Duality, and of the Line of Least Resistance.

OBJECTS OF THE SOCIETY.

To propound and explain the Science of Organisation, to teach its principles, and advocate their application.

To further the objects of the Society a working and *Research Centre* has been established in London, from which Charts and Books, illustrating the Universal application of the Science, are published.

From the London centre, *lectures*, illustrated by Charts and Diagrams, are arranged for at home and abroad.

A *JOURNAL* is published to keep the public in touch with the development of the Science.

The foundation of a *CENTRAL COLLEGE* is in contemplation, for the purpose of training Students in the application of the Science to Educational, Social and International problems.

The value of a large body of Expert Organisers at the service of the State and private Enterprises will be obvious to all.

The training of such a body of Experts implies, however, an expense which subscriptions of a guinea a year cannot meet.

The Powerful aid of Private Donations and Government Grants alone can bring forth the full social value of the work of the Organisation Society and its aim of maintaining Social Order and Progress.

MEMBERSHIP AND SUBSCRIPTIONS.

Members: Membership is open to all men and women interested in the Science of Organisation.

Associates: Men and women are admitted as Associates, but are not entitled to vote or hold an office.

The subscription of each Member shall not be less than one guinea per annum, and for each Associate not less than 10/6 per annum, due on the first day of January.

Each Member and Associate shall be entitled to a copy of the Journal of the Society.

CHART OF THE HEALTH INSURANCE ACT.

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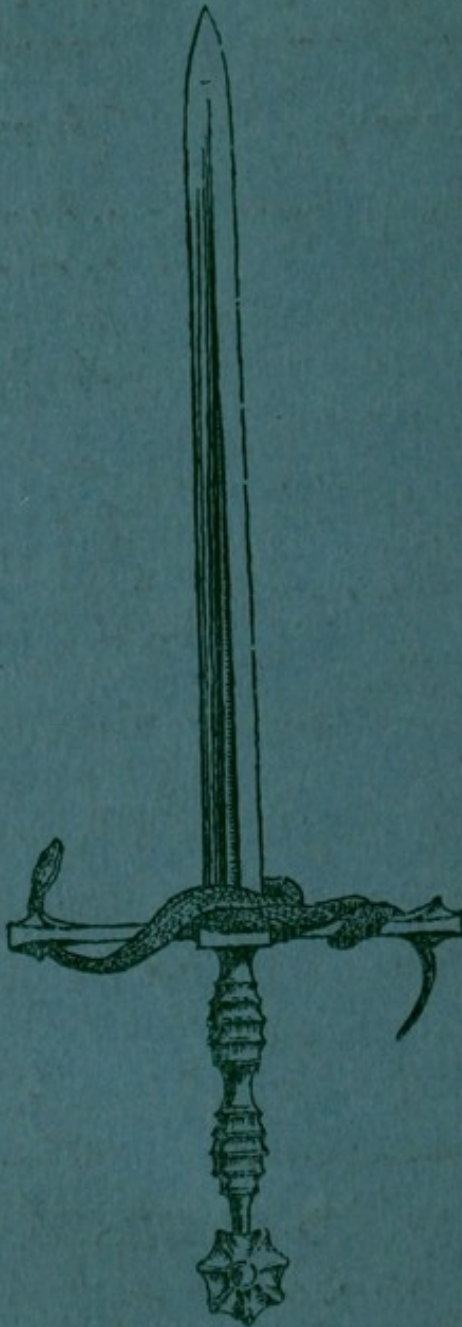
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WHOEVER establishes degrees makes war on men.



It is a necessity of degrees and inherent in their nature, that they come with a sword in their hand, but for the most part this sword should be kept sheathed.