

The main shape and!.....

Shapes tracing the earth & bound with the whole earth.

THE DISTANCE Walt Whitman: Song of the Broad Axe.

Herbs gladly care our flesh, because that they find their acquaintances there.

Georg Herbert: Man

This huge compound creature, LIFE, probably thinks itself but one single animal.

Samuel Butler: Life & Habit, p. 128.

Though the Life Force supplies us with its own purpose, it has no other brains to work with than those it has painfully and imperfectly evolved in our heads.

Bernard Shaw: The Irrational Knot, Preface.

We shut our eyes to the unity of the impulse which, passing through generations, links individuals with individuals, species with species, & makes of the whole series of the living one single immense wave....

Bergson: Creative Evolution, p. 263.

an artist.....

Who paints a tree, a leaf, a common stone with just his hand, and finds it suddenly a piece with and contemporaneous with his soul.

Why also do these things move him, leaf, or stone?

Elizabeth Barrett Browning: Aurora Leigh.

There is only one totality of life & we are part of it.

Hans Driesch: The Great Design (Ed: F. Mason) p. 291.

You ask who are those that draw us to the Kingdom, if the Kingdom is in Heaven? The fowls of the air, & all the beasts that are under the earth or upon the earth, & the fishes of the sea, these are they which draw you, & the Kingdom of Heaven is within you.

Oxyrhynchus Papyri, IV. 6. (Hunt, Grenfell & Hunt)

"We can talk," said the Tiger Lily: "when there's anybody worth talking to."

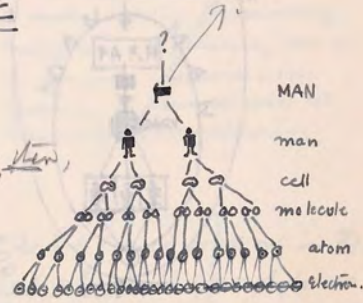
Through the Looking-glass, II.

CHAPTER VII

THE DISTANT VIEW: LIFE

Living Tools

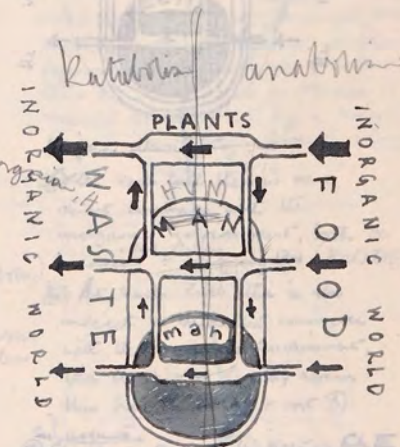
I am a man. And according to the last chapter, a man is a fragment ^{of humanity} ~~computed from MAN~~. ^{one of his cells} ~~To an unbiased observer I would, to no more~~ complete & self-supporting than ^{is by the apex of the pyramid} ~~But this creature MAN~~ is ^{an individual?} ~~Can I draw at this level a portrait of myself that has a definite outline, so that I can say: here at last I am~~ ^{stop} ~~the outside world begins?~~



Quite obviously I cannot. ^{bound up with what instruments lies} ~~MAN~~ is just as ^{is a part} ~~dependent upon organs beyond him~~ his immediate boundaries as man is. He too is ^{whole} ~~a part~~ ^{indispensable} ~~of the whole~~ ^{that is other than himself} ~~yet, being indispensable~~ ^{he is extended} ~~in this himself~~. He is extended; ^{by means of} ~~external organs~~; he too adds to his body a vast ^{his} ~~arrangement~~ ^{of external} ~~organs that make up for the shortcomings of the interior organs~~; he too could not survive the amputation of any large portion of his ^{external} ~~organs~~.



For example, ^{any other} ~~MAN~~ like ^{terrestrial} ~~any other~~ ^{creature} ~~creature~~, must feed on the planet Earth: he must take what he needs from the solid, ^{liquid} ~~gaseous~~ parts of the planet's outer layers, ^{to use it to maintain} ~~to keep up~~ his energy & to grow. Now a very great deal of this material ~~can~~ ^{can} take in ^{directly} ~~indirectly~~, with the organs he has grown for the purpose — thus he consumes oxygen in ^{a great many ways} ~~many ways~~ (as my fire & my lungs for instance), & water, coal, ores, sand, stone, clay, & so forth, ^{directly} ~~without difficulty~~. But he also ^{has} ~~has~~ ^{complex substances composed of carbon, hydrogen, oxygen, & nitrogen} ~~complex substances composed of carbon, hydrogen, oxygen, & nitrogen~~ in various chemical combinations ^{carbon taken from the carbon dioxide gas in the air, nitrogen in the form of nitrates dissolved in the water of the soil, & hydrogen, as well as sodium, potassium, calcium, iron, magnesium, & other elements in small quantities} ~~carbon taken from the carbon dioxide gas in the air, nitrogen in the form of nitrates dissolved in the water of the soil, & hydrogen, as well as sodium, potassium, calcium, iron, magnesium, & other elements in small quantities~~. All these he needs, to build up into ^{the} ~~elaborate~~ ^{carbohydrates & proteins} ~~carbohydrates & proteins~~ particles of which the cell is composed. Unaided, however, ~~MAN~~ cannot take these materials & ^{synthesize} ~~synthesize~~ himself. He is obliged to add to his body ^{external} ~~external~~ organs which are capable of ^{doing so} ~~doing so~~. These ^{external} ~~external~~ ^{mouths & stomachs} ~~mouths & stomachs~~ are plants. The vegetable world is the body ^{attachment} ~~attachment~~ whereby ~~MAN~~ feeds on Earth.



For example, I drink a portion of the plant that ^{is} ~~is~~ ^{the milk in my tea} ~~the milk in my tea~~. It is Earth that has been ^{come to me} ~~come to me~~ through the farm, the mill, ^{the factory} ~~the factory~~, & the dairy — all preliminary ^{stomachs} ~~stomachs~~.

To live at all ^{MAN} ~~MAN~~ ^{must} ~~must~~ ^{ingest} ~~ingest~~

He too is incapable of dealing directly & unaided, with raw nature.

Water, coal, ores, ^{are} ~~are~~ ^{in their raw state,} ~~in their raw state,~~ & internally ^{broken down & digested} ~~broken down & digested~~.

A hand-drawn diagram illustrating a closed-loop system. At the top, the word "EARTH" is written. Three arrows point down from "EARTH" to a rectangular box containing three stylized plant icons. An arrow points down from this box to another rectangular box containing three stylized cow icons. An arrow points down from the cow box to a rectangular box labeled "FARM". An arrow points down from the "FARM" box to a circle labeled "DAIRY". An arrow points down from the "DAIRY" circle to a rectangular box containing three stylized human icons. At the bottom, an arrow points down from the human box to the word "EARTH". The entire system is enclosed within a large oval. The letters "L", "I", "F", "E" are written vertically along the left side of the oval, and "S", "Y", "S", "T", "E", "M" are written vertically along the right side.

The diagram illustrates the flow of matter and energy through the hierarchy of life. It is divided into two main sections by a horizontal dashed line: the 'Inorganic World' at the bottom and the 'Organic World' at the top.

- Inorganic World:** Contains a 'Cell' at the bottom. Above it is a box labeled 'man' (likely representing a human body or a specific organism). Arrows point upwards from the 'Cell' to 'man'.
- Organic World:** Contains a box labeled 'ANIMAL KINGDOM' above 'man'. Arrows point upwards from 'man' to 'ANIMAL KINGDOM'.
- Plants and Life:** Above the 'ANIMAL KINGDOM' is a box labeled 'PLANTS'. Arrows point upwards from 'ANIMAL KINGDOM' to 'PLANTS'.
- Life:** At the top is a box labeled 'LIFE'. Arrows point upwards from 'PLANTS' to 'LIFE'.

On the left side, the text 'Inorganic World' is written vertically. On the right side, the text 'Organic World' is written vertically. The diagram uses various arrows to show the flow of matter and energy between these levels, with some arrows pointing in both directions, indicating a cycle.

Diagram illustrating: —

At each level there is some direct commerce with the inorganic environment, both on incoming ^(A) & outgoing ^(B). (Karatolic) and

At each level there is also indirect or mediated commerce with the inorganic environment, via the higher levels; again this has the in (A) & out (B)

* When the view taken in this book differs from that of the Vitalists (Bergson, Driesch, & others) will become evident to the reader. Here, I want to emphasize particularly that the LIFE is no physical & up concrete as a cell or a man.

friendships are always ~~glorious~~
~~at least it is~~
~~incumbent that new people~~
~~are brought~~
~~led to~~
~~are not~~ no part of me
 at all

all ~~the~~ ^{plant &} ~~existing~~ ^{collected} ~~mass~~ of
committee individuals, whose
the changing.

relationships are always forced
 at least it is
 inevitable that other people
 if a group
 are forced to interact
 this are not no part of it
 at all

Different though LIFE's body is in many obvious ways from my flesh & blood body, there is an identical underlying pattern. To begin with, this scattered body ^{is in fact not} grows up from a single primitive living thing* much as I grow up out of a single fertilized cell. And as it grows its parts become more & more complex, & diverse, & numerous, ^{& rationally adjusted to one another,} (in other words, more & more genera & species of animals & plants branched off the common stem) in much the same way as my cells develop from one sort into many sorts of specialists. In me the main, this increasing differentiation of parts meant the growth of the whole to higher unity & new powers. Even so is the elaboration of LIFE's scattered body into more various, more gifted, & more numerous ^{parts} organs, an aspect of its progress as a whole. +

Common sense points out that whereas the parts of my body are completely interdependent, & so bound up together that none of them has any real life or meaning apart from the rest, animals & plants clearly enjoy a large measure of independence of one another. They have some elbow room - sometimes a great deal. It is a matter of indifference to me which cow, of all the thousands in the country, will supply my milk tomorrow; & it is equally a matter of indifference to the cow who will milk her, so long as someone does. If the cow were shifted to America or New Zealand she would probably get along quite as well as she does now: she doesn't need this grass - any good grass will do. Does it not follow that LIFE is really an aggregation of individuals that are mutually dependent, but still essentially separate? Or, at the most, if LIFE were granted an individuality of some sort, would not this be of a low order? MAN at least has a semi-permanent shape, a sort of skeleton to hold him together: even this LIFE lacks. Now this.

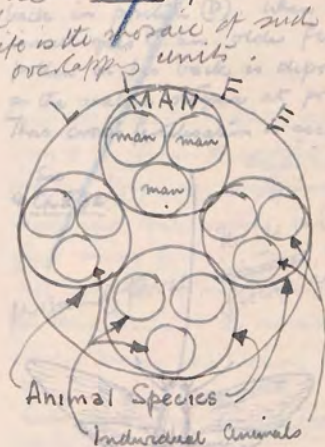
Now the mistake here is to suppose that animals & men & plants are the organs of LIFE. Indeed, they are organs of organs of LIFE: between the individual animal & LIFE there is a level which must not be omitted - the Species. LIFE is a society of Species, of which ^{one of} ~~MAN~~ is at present the dominant member. And these ^{species} (there are a million known animal species alone) are, in countless ways necessary to one another's existence. Together they are a body so finely balanced that a change in the manner of life, or in the numbers, or in the habitat, of the most obscure of them is bound to affect every other ^{species} in the ~~animal~~ ^{ecosystem}. ^{species} rely on ^{for food} ~~herbivores~~ ^{herbivores}; ^{herbivores} rely on ^{plants} ~~plants~~ ^{plants}; ^{plants} rely on ^{species of bacteria} ~~bacteria~~ ^{bacteria}. But bacteria rely upon plants & animals have come to need animals. ^{in fact} In fact, just as each organ in the body of a

Does LIFE lack, even such shape, & such ^{primary} spatial relationships, as H. can show?

* The evidence for common ancestry is ~~found~~ based on palaeontology, embryology, & genetics, but it is far from conclusive. In particular it does not cover the lower organisms satisfactorily.

Loew 186
+ As R. H. France points out in The Soul of Plants, the great phyla are the marks of a single living creature who masters the art as birds & insects, the water as fishes, & the use of light as plants. Far better known is Bergson's analogous doctrine in Creative Evolution. Meredith's Metempsychosis (in the poem of that name) relates in details LIFE's unity: "The souls held by the creature nearer than are to earth be sought, & the links of these life will own: And when alike are one, ~~unlike~~ ^{unlike} where, & the veins Division, veins parallel, of a blood that flows In them, in us, from the source by man unattained. Save marks he will what the mythical roots disclose." 227 Cordable.

+ It is worth noting that, amongst primitive peoples the individual animal, or plant, is ~~figures in community~~ ^{figures in community} is all-important, amongst whom the whole class or species is regarded as controlled by a single power. See J. Erdős Carpenter: Comparative Religion, p. 116.



* Bergson suggests that these ~~three~~ 'kingdoms' (bacteria, vegetation, & animals) are the three great 'divisions of labour' that split up amongst themselves functions that once inhered in ~~one~~ undivided life. Creative Evolution p. 13.

material collection

* Experiments by Dr. F. E. Luntz,
however, suggest that colours
of flowers are ~~caused~~ by products
~~of~~ that are not of great notice
to insects searching for flowers.



Flower of Salvia pratensis (From
Weismann's Evolution theory, after
H. Müller) — a striking example
of adaptation to insects. The stamens
(A) mature first, ~~the pistil self-~~
~~fertilization~~ and, when an insect
alights on the lower lip of the
flower, ~~it brings the stamens~~
they descend on to his back (C) & dust
it with pollen. Meantime the
stigma ~~is~~ is still immature & held
back in position (D). When the
insect goes to an older flower, the
pollen on his back is deposited
on the mature stigma at position (E).
Thus cross-fertilisation is secured.

See
● CH 56.



proboscis
The tongue of the Hawk moth,
elongated to reach the nectars
of deep honey-sprurs. A Madag-
ascar orchid has a honey-sprur
11" long, & there is a species of
hawk-moth, with an equally long
proboscis, able to get at the nectars.
(Nature, 1873, p121.)

Obviously LIFE is loose-jointed. But what for common sense is the gravest defect is, in ~~truth~~^{with}, the main source of vitality. The seeming independence of LIFE's members is not independence at all, but inter-changeability, elasticity of organisation, ^{improves} adaptability, unending resource. ^{provides the opportunity for} ~~fulfills~~ opportunity for experiment. * The fact is that LIFE's organisation has to a superlative degree those invaluable capacities found in ~~itself~~^{it} — the capacity for ~~without~~^{piecemeal} replacement of organs, for the production of novel devices to meet novel situations, for ~~constant~~ rearrangements of its memberless permutations of existing organs for mutual stimulation & advancement — in a word, for ^{the interpenetration of organism & environment,} creativity. This looseness, this lack of rigid connection, provides the ~~these means~~^{conditions} in which creativity can flourish uncramped, free from many of the limitations of compact & rigid bodies.

* ^{definite} ~~same~~ ^{same} organs, with one relation-pattern linking them, ^{are in ~~many~~ ways in unison: by type of organized} ~~are in many ways in unison: by type of organized~~
 same ~~same~~ organs capable of being shuffed to produce a score of relation-patterns. Again, ||
 * livingness is primarily interchange between a creature & its world, a creature that manages
 to saturate its body with its world, & its world with its body, has unparalleled scope for
 living.

equally significant

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to the natural selection as the negation
of organic growth, see W.T. Hootenauer:
Mind in Evolution, p. 456. The struggle
for existence (according to Hootenauer) is
incompatible with that organic unity
which is seen in the unfolding of the
genus. The first is a fight, the second is
true development. What is why evolution
unlike inorganic evolution is a process
of growth in place.

What is organic

What is inorganic



~~But~~ within this body there is, ^{living} struggle as well as mutual aid. How can Nature, and in tooth & claw, with her ~~Trickster~~ worms & flies, Flukes & guinea-worms* & ichneumon flies, with her Tyrannosaurs & rattle-makers & beetle flies, still be one body, & a highly organized one into the bargain?

I have already pointed out
First I must remind myself that there is in every ^{individual} animal body
a very real 'struggle' between cells, between tissues, & even between
organs. ^{Warfare suggests that} Civil war, temporary in one way or another, is typical of
organization. * Real, dynamic, unity is always a more or less
precarious balance ^{or power} between violent (or potentially violent) opposing
forces. * In the smaller individuals the ~~contending forces~~ ^{conflict is} is hidden
~~from me~~ because I see only the whole; in the larger individuals
the ~~emergent unity~~ ^{that emerges from the conflict} of the ~~same~~ ^{contending} forces is hidden ~~from me~~
because I see only the part. It follows that my first impressions
concerning what is, & what is not, a whole are ^{largely} not reliable
anything so relative, a question of ^{the scale} of ^{or the object} ~~the range~~. I am too distant
from ~~man~~ to see ^{man's} ~~his~~ disunity; too near to see LIFE's unity. But
that unity exists: the question is ^{whether it is} ~~is~~ LIFE's unity organic? Insufficient
union, too feeble an ^{internal} struggle, makes for lack of effective unity at the

* A parasite on man, up to six feet long, which makes abscesses in the ~~its~~ ^{carcass} ~~throats~~ ^{throats} which its eggs are passed. It is removed by slowly winding it out, over a piece of vesico, on a ~~step~~ ^{strip} piece of wood.

* As Heraclitus taught, reality is born of the tension of conflicting forces. "Homer was wrong in saying: Would that strife might perish from among gods & men! He did not see that he was praying for the destruction of the universe; for, if his prayer were heard, all things would pass away."
Quoted from Rogers: Students' History & Philosophy, p. 17.

~~After C.S. 20 expect~~ Life does
~~C.S. complex~~ the standard of the
to set conf is like express
animal organ (5)

[illegible]

To say that MAN or any other species has evolved from ^{primitive} ~~remote~~ beginnings is, in the ~~place of~~ ^{place of} ~~discovery~~ ^{discovery}, absurd. Only LIFE has evolved; only LIFE has developed new powers; only LIFE is alive.



4 The shape of LIFE's body.

LIFE is an individual of a higher order, a new level of organisation. How far, in the hierarchy of wholes & parts, each new ^{level of} individual ~~has~~ (except at the pyramid's base) has had an evident structure. Cell, man, & MAN - all have characteristic pattern. Is LIFE an exception, a formless thing, without so much shape as a cloud?

'a habitable flowing Earth-rind'; or rather

* Carlisle: Saints, Revelations, iii, viii.

LIFE is not shapeless, but a hollow sphere - ^{Earth's living layer -} the ^{thin} skin that includes the soil (which is alive with countless organisms), the sea, & the lower levels of the atmosphere. ^{its thickness} At ~~most~~ this skin is not much more than 40,000 feet thick* - a mere thousandth part of Earth's diameter. It is denser where the climate is both warm & damp, thinning out where the climate is either very dry or very cold; ^{it has no clear-cut boundaries, but fades into the inorganic environment.} ^{its depth varies according to the depths of the sea or the soil.} In detail, it is neither of regular nor clear-cut pattern, but seen as a whole, to a ^{small enough} ~~small~~ scale, it is ^{well-} ~~well-~~ ^{defined.} ~~defined.~~

* Bacteria are found at heights exceeding 20,000 feet, & animals at a sea-depth of exceeding 20,000 feet: no doubt the inhabitable region is actually somewhat more extensive.

The term, first proposed by Walker, ^{has been taken up by the} ~~the~~ Russian school of geochemistry: ^{use the term:} ~~use the term:~~ ^{vide W. Verdanaky:} ~~vide W. Verdanaky:~~ ^{La Biosphère, (Paris, 1929.)}

For a description of the possible appearance of the Earth from the Moon see Russell & Young: A Manual of Astronomy.



The Biosphere: ~~the~~ the Biosphere's (maximum) thickness is given in these diagrams, exaggerated by 10 times.

So would a super-anatomist, with LIFE under his microscope, report. And for him this ^{old} ~~old~~ ^{spherical} animalcule would not lack organs. First the continents, like primitive brains, veined with rivers & ribbed with mountain ranges, slowly changing shape & heaving themselves about. Then, within them, the forests, & savannas, & steppes, & deserts, & tundras, with all their subdivisions. Again, vertical organisation in a variety of modes. The ^{oceans} ~~sea~~ is stratified (^{according to pressure, temperature, & salinity}) & the range in depth of most marine creatures is therefore very limited: each ^{species} ~~has~~ ^{lives} ~~its~~ ^{life} at the level to which it is adapted. On land, too, LIFE is organised into horizontal layers. In the jungle, or the temperate forest, or the grasslands, the dominant plants are those which spread their light-traps over the others; each inferior layer is adapted to ~~be~~ in a dimmer light than the layer above it. Finally, there is MAN, ^{humanity} ~~humanity~~, knitting the whole Biosphere together with ^{his} ~~his~~ ^a network, as if it were, what is (roughly speaking) in truth, the nervous system of LIFE's body. What the nervous system is to ~~humanity's~~ ^{MAN's} ~~MAN's~~ ^{precise} ~~precise~~ ^{function} ~~function~~ in LIFE's ^{body} ~~body~~, MAN is clearly as inseparable from

Biosphere units, Life has form.

The whole

As too does a view of life taken in unity, but its form.

it as a man's nerves are inseparable from the rest of his body. In the previous chapter I was, in fact, figuring an organ rather than an organism, treating this part as if it were the whole. My portrait of ~~MAN~~^{MAN} involved a surgical operation which would immediately have destroyed the subject. The portrait was to that extent a false one. ~~MAN~~^{MAN} is not a body encased in a bigger body, but an organ sustaining & sustained by an organism.

~~MAN~~^{MAN} is the dominant organ of LIFE. In particular, he is the organ whereby LIFE has become very largely 'mechanical' & 'power-driven', whereby profound changes in her physiology are now occurring,

in this instance ~~the~~^{Life is certainly} ~~And this body is certainly~~ not less alive, or less intelligent, or less gifted in any way than one of its organs. parts. That is to say, ~~the~~^{most of} the capacities I attributed to ~~MAN~~^{MAN} in the previous chapter belong, in fact, to LIFE. The intelligence ~~last~~^{was} applied to him ~~was~~^{in reality}, applied to LIFE. To have a clever organ is not necessarily to be clever yourself, but ~~to~~^{possess} such an organ in ~~one's~~^{one's} dealings with the ~~outer~~^{outer} world is to (as I have already ~~suggested~~^{suggested}) to be all that ~~other~~^{other} organs are, & to do all they do.*

"I always thought they were fabulous monsters!"
said the Union. "Is it alive?"
"It can talk," said Hargha, solemnly.

5 The observer listens to LIFE.

What does the remote observer make of this spherical organism, with its ~~quasi~~^{quasi} irregular, slowly changing patterns? Watching its behaviour — in so far as such a creature can be said to behave — does not seem to hold out much promise. But there is one thing a properly-equipped observer could do: he could listen to LIFE. With the necessary radio sets he could hear what the LIFE has to say for itself, then draw his own conclusions. * What does he hear?

"Earth with her thousand voices praises God." (C)

He hears the little sphere singing. I do not mean this metaphorically. He hears actual music, coming to him on actual ~~ether~~^{ether} waves, from an actual soloist. He tunes in, & the sphere is sending out classical music; he changes the tuning, & hears jazz. Perhaps, to this ~~super~~^{super} observer (assuming, I assume, ~~with~~^{with} ~~the~~^{the} ~~say~~^{say}, a tempo & an acuity of perception that are superhuman), the whole volume of sound, coming in ~~from~~^{from} all the various wave-lengths, is in the end heard as one harmony, ~~the~~^{the} ~~creation~~^{creation} of a born artist, pouring out night & day into the universe his ~~spontaneous~~^{spontaneous} ~~reactions~~^{reactions} to the mystery & beauty of it all. But even if the observer is incapable of such a synthesis, or if, ~~being~~^{being} ~~capable~~^{capable}, he hears only a noise, the performance of the little sphere ~~is~~^{is} ~~hardly~~^{hardly} ~~less~~^{less} impressive. An animalcule that can present the Brandenburg Concerto to the world is not to be despised. Stones do not sing. Neither do



whereby he is becoming self

conscious & self-constructing.

of evolution & the evolution of the organism.

Clearly the organism is not a point.

But LIFE is an organism, growing

changes and with it the theory of evolution

that organism is a ~~complex~~^{complex} multi-part

movement LIFE, ~~the~~^{the} self-conscious, is

beginning to ~~show~~^{show} itself. This fact

is ~~clear~~^{clear} ~~to~~^{to} ~~the~~^{the} ~~eye~~^{eye} ~~of~~^{of} ~~the~~^{the} ~~observer~~^{observer} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~future~~^{future} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~past~~^{past} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~present~~^{present} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~future~~^{future} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~past~~^{past} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~present~~^{present} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~future~~^{future} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~past~~^{past} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} ~~the~~^{the} ~~present~~^{present} ~~and~~^{and} ~~the~~^{the} ~~world~~^{world} ~~of~~^{of} 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plants & cattle. Even birds' songs cannot compare with the little sphere's music. Is it then a creature that ^{has developed} (as the birds seem to have done) ^{emotionally} rather than intellectually? Has the ~~creature~~ ^{listener} any name to suspect that the sphere which rings is also a sphere which knows it rings, & ^{which} makes an effort to understand the world in which it ~~rings~~ ^{rings}?

I imagine that LIFE's ^{spoken} words would mean nothing to the listener - no more than the croaking of frogs & the chirping of sparrows mean to men. There would be no way of relating a sound to the thing it signified. But, with the advent of television, he would at once have all the clues for learning LIFE's multiple language. Then, indeed, he would be in no doubt about the creature's intelligence. He would hear LIFE making countless verifiable & consistent statements about the seas & lands & atmosphere of the Earth, about the Moon & the other Planets. He would find that LIFE was busy investigating ^{her} own constitution, ~~concerning~~ ^{examining} ~~the~~ ^{her} ~~supernatural~~ ^{supernatural} of species, organs, searching out their endlessly involved relationships, recording their separate & joint histories, probing into their anatomy & physiology. And he would find that LIFE, in spite of (or, rather, as the ^{corollary} of) all this attention to detail, is able to rise above the study of its particulars to the study of universal truths, generalisations, laws. He would listen to LIFE discussing ^{her own} the meaning & origin & destiny of LIFE, about what is necessary & what is contingent in the world, about the possibility of true knowledge, about the nature of being & all manner of deep questions. To these her answers are ^{admitted to be} ~~admitted to be~~ ^{she admits it} either unconvincing or altogether lacking. But the quality of LIFE is shown not so much in what she knows, as in the questions she knows how to frame, & even more in the knowledge of her own inability to answer them adequately. LIFE's awareness of the ~~complexity of things~~ ^{her} ~~her~~ ^{humility} before the unknown, her sense of creaturely limitation, is ~~nothing more impressive than all her knowledge of facts~~ ^{nothing more impressive than all her knowledge of facts}.

And no doubt the listener would attach great importance to his discovery that the little sphere was just beginning consciously to control ^{her} ~~her~~ ^{own} bodily constitution, & to deliberately direct her own growth. LIFE's self-study has already enabled her to re-design & re-shuffle many of her own organs, to suppress this part, encourage that, re-distribute the other. LIFE has begun to take herself over.

Finally, the listener makes what is the most significant discovery

* See Julian Huxley: Evolution of a Biologist, An Essay on the Bird-Mind, in Essays of a Biologist.

© The issue between the mechanistic theories of evolution & the vitalistic is no simple one. Clearly the ~~facts~~ ^{former} are valid up to a point. But LIFE is one organism, growing always as a whole: any theory of evolution that ignores this is obviously inadequate. Moreover LIFE, becoming self-conscious, is beginning to order her growth. This fact is closer to Lamarck than Darwin, & to Wallace than Lamarck. I refer to the Wallace who wrote: The World of Life, a Manifestation of Creative Power, Directed Mind & Ultimate Purpose (Chapman & Hall, 1910), & who put evolution into the hands of 'organising spirits'. I only add that these 'spirits' are not so fast to seek as Wallace imagined, & that he has access to them in himself. DENDY 405.

* In particular, he would perhaps be amused to hear LIFE doubting, (or, with some heat, denying) her own intelligence & unity, & even her existence. He would doubtless attribute, to a creature capable of such an excess of scepticism, great philosophical subtlety.

* Sometimes a man is afraid when he is in a room alone at night, but the fear is only a shadow, as even as he thinks of a tree, because after a while he is no longer afraid. Then he probably 'recollections' of his own life in the future.

Suppose that (helped by his television set) the observer ~~has~~ ^{has} ~~understood~~ ^{understood} the words. Then, indeed, any ~~doubts~~ ^{doubts} of ~~intelligence~~ ^{intelligence} would be ~~disproved~~ ^{disproved}.



of all. The little of her marvels. In language hopelessly inadequate to the task it LIFE marvels. Her awareness of the mystery of things, her humility before the unknown, her sense of creative limitation, are really more impressive than all her grasp of facts, & all her efforts at self-control. In language hopelessly inadequate to the task, she tries to express her awe at the unspeakable miracle of her own being & of all being, her overwhelming sense of the abyss that engulfs her, her glimpse of the tragedy that seems to underlie all reality, her admiration of the ^{beauty} sometimes terrible & sometimes dear, ^{that suffuses} the world.

6. LIFE as a community. To say LIFE sings is like saying a tree sings, instead of the birds in the tree. Common sense interrupts her: the listener does not hear LIFE at all - he has tuned in to MAN. What do the other species of animals & plants contribute to the programmes he hears? Nothing. Instead of MAN being an organ of LIFE, LIFE is an appendage of MAN. MAN speaks for himself, & if he speaks for LIFE too, that is only because he has brought her into line with himself.

I reply that LIFE is a society of species body whose organs are the species & genera of living things: the dominance of one organ - MAN - does not make the contribution of any other organ superfluous. To take a concrete example, suppose the listener is now tuned in to a performance of the Fifth Symphony: how have the trees in LIFE contributed to what he hears?

This contribution is great, & indispensable, & so many-sided I can only indicate some aspects of it. First, the development of music has been governed by what can be done with wood: the sort of instruments that can be made of that material: MAN. MAN without trees would be a MAN without the music we know. As a factor in the whole economic structure of MAN, wood was & still is of prime importance, & the mind of MAN is closely conditioned by his economic structure. Third, an environment of trees, woods & forests, for hundreds of thousands of years, has gone to the making of MAN's intellectual & emotional capital. Even if the notion of a racial unconscious is rejected, the tradition of MAN - countless religious cults, folklore, poetry, art, techniques of all kinds - is intimately bound up with trees. Fourth, it was when MAN's foot was too large to fit on the trees from their carnivorous enemies, that they developed the opposable thumb, the coordination of hand & brain, & the greatly enlarged forebrain that went to the making of MAN. The changes of habitat involved mental & physical remodelling. What trees we like has a great deal to do with this.

To illustrate the growth of the Visual Region & the reduction of the Olfactory Region of the brain. Such levels of development are similar to those witnessed by man's ancestors.



Jumping Shrews (terrestrial) live in a small world.



Tree Shrews (arboreal) see & smell less



Tarsius: the process continued further



Marmoset

■ Visual Region
□ Olfactory Region
▨ Other Region

(Comix Evolution, p. 37)

J.E. Booding believes that Earth's harmonies waves to other parts of the universe, which select & respond to them. I do not rule out this possibility at all, but (as in so many similar instances) it is all too easy to indulge in guesswork while neglecting the clear evidence right under one's nose, just because it is so commonplace. For this reason I prefer to speak of known radio & radar waves, rather than unknown 'mental' or 'organic' or 'spiritual' waves - whatever they may be.

How many is it in the universe of the kind mentioned? I do not know. I neglect the evidence (in the case of radio & radar) which is so obvious & to the eye.

* The term is vague: between species & variety there is no clear-cut distinction. Moreover there are different kinds of species - those originating geographically, ecologically, & gradually, have been distinguished. See Julian Huxley: *Evolution: The Modern Synthesis*, p. 154ff. This vagueness, which is paralleled at every level, does not affect the argument here.

* ~~For instance~~ A man is afraid when he is in a wood alone at night, but the fear is very much lessened as soon as he climbs into a tree. ~~then~~ After a road accident, a person involved sometimes finds his ~~hands~~ fingers & toes very tightly clenched. These are probably 'recollections' of our ancestral life in the trees.

* ~~See Elliot & Smith~~ vide G. Elliot Smith: ~~Evolution~~ The Evolution of Man.

44 325

What is true of bees is true, directly or indirectly, of all other living things. Together, ^{made one in} as LIFE, they are responsible for the Ninth Symphony. Not Beethoven, not MAN, but LIFE, composed it; + LIFE is the only executant. Beethoven was the organ $\pm$ out of the body nothing; in it, everything. And, if common sense ~~denies~~ ^{denies}, making MAN responsible instead of LIFE, + Beethoven instead of MAN, then I ask why the pairing-down process should stop at that point. What has Beethoven's feet or his liver to do with the composition? He who ^{is not} his nervous system that was responsible, or rather his brain, or rather a part of his brain, or certain molecules there.....?

LIFE is one. And LIFE, not MAN, qualifies for the ^{first place in} apex of the hierarchy of wholes & parts. But each new level in the pyramid has its own laws, its peculiar structures & mode of functioning. LIFE's peculiarities include the dominance of MAN as one of her organs, & the spatial discontinuity & interpenetration of the remainders of her species-members. And, ~~as~~ just as in MAN there are many different modes of organization, so in LIFE there are, in addition to species, genera, phyla, & so on, (which represent organization in time, ~~genetic organization~~ rather than in space) communities which cut across these divisions in all directions, binding the most diverse entities together into complexes that are true organs of LIFE. Thus in a locality the ecologist finds a number - perhaps dozens - of species of plants & animals whose lives are inextricably bound up with each other; they are a true society of mutually dependent, highly specialized, members - ^{as are} individuals of a sort. LIFE is a society of myriads of such interlocking & overlapping societies. And MAN is particularly involved. The local flora & fauna upon which a human community largely feeds, out of whose products it largely clothes & houses itself, whose degradations it resists, whose mutual relations & members & habitats it is always modifying - these ^{creations} are, in certain respects, obviously

"Every living form, animal or vegetable, is the expression of an activity which is not theoretically or abstractly, or collectively one activity but essentially & indivisibly one."

H. N. Sheldon Carr: A Theory of Monads, 1915.

Distribution map of
 2 species: = 11 species
 "Shape" (See S/L for
 Beaver & aspen 645)

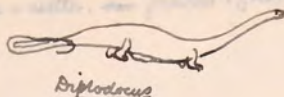
Butterflies & other insects
to make a good life;

...and, perhaps, at the
...an ultra-violet
...practically ne
...as a whole
...in the

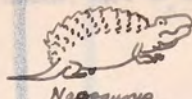
As it has been
shall identify a more.

that is
does it
life really is

Si J. Arthur Thomson, produces 200 million eggs
a year.



Diplodocus



Naosaurus



Triceratops

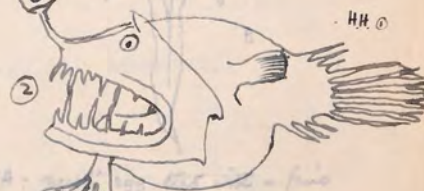


Stegosaurus, some 25 feet long, armed with fantastic plates along its back.

See Haldane: Possible Worlds, p. 29 ff. for a statement of the case against the existence of an intelligent agency directing evolution. See Julian Huxley: Evolution: The Modern Synthesis, p. 576, for the view that evolution is "first, as much a product of blind forces as is the falling of a stone to earth or the ebb & flow of the tides."



S/L 566



HH 0



9/c 571

- 1 A copepod crustacean, whose fishery shape is an adaptation to a floating existence.
- 2 A deep-sea angler fish: the light here on its mouth is luminous for attracting the inquisitive. (actual size)
- 3 Another deep sea fish, Chimaera, which has just swallowed a fish larger than itself.

* In Russia, carrier pigeons are used to transport the bull's semen to distant farms — a pretty example of the inter-specific organization of LIFE.

Artificial selection or selection at the species level.

luck) that foredoom species to extinction; the wild extravagance of the evolutionary scrapheap, piled high with such hopeless failures as the giant Mesozoic reptiles; the cost in pain & inefficiency of disease (which was rampant long before MAN appeared); the horrors of parasitism; minor blunders, like the human appendix: — in all this what sign is there of intelligence?

A. I am not sure whether it is any more to the point to take LIFE to pieces & award marks for each piece, than it would be to judge a novel by summing the ^{merits} of each paragraph; there is more in the symphony than there is in its phrases & movements taken separately & totaled. And, even if it were proper to dissect LIFE, I am not sure by what standards the members should be criticized. There are moods in which the whole can be accepted in its entirety, & the shortcomings of the part seem to be overcome: then I can ^{conceive} how the good & the bad, the success & the failure, ~~in LIFE~~, need each other, & there is no value without contrast. ~~Finally~~, I am not sure whether the waste & the pain & the mistakes are not among one of them the irreducible price paid for what is of worth in LIFE. If — as is not improbable — no man can create painlessly, why should LIFE be exempt from what is perhaps a universal law? *

C.S. Superhuman blunders, huge, on some vast cosmic scale, — perhaps; but these futilities in LIFE are, many of them, the sort of thing a child could avoid.

(on obvious risks.)

A. And who is it that ~~take~~ takes LIFE to task? Is a man in a position to superintend the creature of which he is an insignificant particle? No: it is LIFE who is waking to self-consciousness & self-criticism, & the existence of common-sense doubts about her answers ~~is~~ is proof that the doubts are not entirely justified.

And LIFE is not merely conscious of her shortcomings: she is on the way to becoming a reformer character. LIFE scatters her specimens with careless profusion: she also has begun to conserve those that matter most.

By means of 'artificial' insemination, a prize bull now sires a dozen cows ^(without risk of infection) where before he sired one, & the horticulturalist painstakingly garners every seed from the plant he has ^{chosen} selected. LIFE relies on the chance mutation: she also deliberately turns X-rays upon ^{her chromosomes} the chromosomes of herself & awaits the issue. LIFE is subjected to ^{supra-specific} hap-hazard, zipping at the intra-specific, inter-specific, & ^{inorganic} inorganic.

but extremely difficult, If I can but merely appreciate (as though it were a supreme work of art) the incredible riches of form & action, the more-than-dreamlike fantasy of the enterprise of LIFE, does not the fault perhaps lie with me? I stand too near the picture. Of course — it is true of every great masterpiece — the larger & wilder there: in this art, when I see right, catharsis also? ~~Finally~~

LIFE'S ^{half way to becoming as} ~~as~~ dogs & horses & cattle, ^{but} flowers & fruit & cereals, ^{are} ~~as~~ artificial as ^{the} machinery

level, ^{often with deplorable results}: she has also ^{consciously produced} ~~experimented~~ ^{planned} a host of animals & plants by ^{the swift & economical methods of} "artificial" selection. She is a geneticist who is beginning to handle her chromosomes as freely as if they were pawns on a chessboard. LIFE suffers self-inflicted & world-inflicted pain; she also discovers more & more effective analogues. LIFE's experiments are slow, ^{or rather they were}; her instruments are few, her methods are demotyped. She can ^{nevertheless} now so use the microscopic egg of a newt that it will produce a two-headed ^{monster} tadpole. ^{At} graft the hind-quarters of one species of tadpole on to the fore-quarters of another, so that the whole grows up into a frog of two species.

For example, a plant has been bred with turnips, cabbage, & radish chromosomes in its cells. (J.G. Crowther: Outline of the Universe, p 241)

Wells, Huxley & Wells: The Science of Life Vol. II, Ch. II, § 8, & Ch. V § 1.



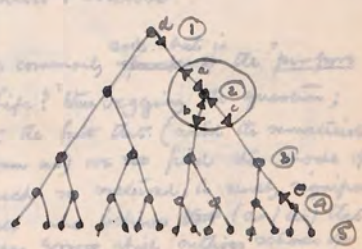
A: newt's egg tied with a fine hair.
B: the resulting two-headed newt-tadpole.
(After Wells, Huxley & Wells)

But these & in countless other ways LIFE is taking her life in hand. Perhaps there is not one of her old mistakes, not a single instance of waste & pain. That, with not, in the end, by calling for criticism & correction, migrate to her power. To learn very slowly may, in her case, be to learn very thoroughly. Is not all in her which cries out for criticism & control, the indispensable ^{prerequisite} of her developing critical & self-controlling faculties? The measure of her ^{And} blunders & failures may be the measure of the task before her: if she succeeds in the gigantic enterprise of her own reform, who shall say that the blunders & failures were really blunders & really failures?

8. The functions of MAN, & the functions of LIFE.

C.S. But how much of this awareness & control is man's, how much MAN'S, & how much LIFE'S? Is there not here some confusion?

A. All that my hand does, I do. I am in law responsible for the behaviour of my members, ^{at the doctor's} I do not disclaim the least of my organs. Yet, ^{it is plain that} responsibility is divided & delegated: as I have already noted, all organisation involves non-intervention between levels. Thus, while it is true that what LIFE's organs do LIFE does, the delegation (I speak metaphorically) responsibility to MAN & to man & to all the lower orders, each of which carries on ^{business} ~~relations~~ at its own level. * The rule is: each will not mix. Roughly speaking, individuals deal with their equals. There is no climbing & there is no condescension. The scheme of things is ^{such} ~~ordered~~ that man ~~does~~ ^{concerns} himself with other men in ~~that~~, MAN concerns himself with other species in LIFE, & LIFE ^{concerns} ~~itself~~ with large ^{scale} ~~aspects~~ of her ^{the inorganic} ~~own~~ environment.



The Delegation of Responsibility
(* See p. 59) which is the basis of all organisation. The individual at level 2 is concerned only with a, b & c. If he becomes concerned with d or e, he is then functioning at level 1, or level 3.

Alice was right - what makes the world go round is everybody minding his own business: the business, that is, of his own level. ^{plane}

Curious man is used to ^{psychical} expansion & contraction, according to the object on which he is working, but a primitive has to know the 'transference of libido' by ceremony. Hence the spring-ritual, devoting his attention & energy away from the sex-object woman, to her analogue the earth, as the prerequisite of his work as cultivator. (See Jung: Psychology of the Unconscious, p. 167, & Contributions to Analytical Psychology, pp 47 ff.) In my phantasies, just as in initiation ceremonies man identifies himself with the human community, flinging on its work & objects, so in spring-ritual he identifies himself with a larger living community, taking on its work & objects - namely cultivation & the soil. Dying, he goes from MAN to LIFE & LIFE makes himself at MAN level & LIFE's level.

* Thus it is both time & untine
that, as Samuel Butler ^{says} thought,
in Life & Habit,
we are tiny corpuscles in the
great organism of Life, that knows
not of us.

A. They do, yet they belong also to & they do not. They belong to him, in the. They are only delegated to him, yet they must be delegatable. What the private^{soldier} does the Army does: he is not acting on his own. Yet the Army can only perform ~~that~~^{the private's} particular tasks by using his particular body. The whole must descend to his level to act. So does LIFE descend, & become less than herself. To find out what she amounts to at her own level I must consider her dealings with the outside world. ~~The~~^{The} ~~geographer~~^{geologist}, ~~geologist~~^{meteo-} ~~ologist~~^{-ologist}, ~~and LIFE's organs~~^{he operates at LIFE's level}; ~~botanist~~^{zoologist}, ~~at~~^{at} ~~Humanity's~~^{Humanity's} ~~do. a~~^{do. a} ~~MAN'S~~^{MAN'S}. The ornithologist examining a bird is not (unless ^{the bird} ~~it~~ ^{is a} ~~happy~~ ^{gale} ~~bird~~) ~~looking~~^{looking} an individual man looking at an individual ~~bird~~^{creature}; acting on MAN's behalf he sees it as representative of its species. MAN, Homo Sapiens, contemplatio Wren, Troglodytes troglodytes. And the meteorologist, mapping pressure & temperature & rainfall ~~as on~~^{up to} over the Earth's surface, is not (as such) a man, or even MAN; he ~~is~~^{is not} LIFE ^{up to become a person}. Looking out upon her world, & predicting its behaviour, in order to adjust her own accordingly.*

C.S. Activity at the higher level ought, surely, to be intrinsically distinguishable from activity at the lower level: distinguishable, ^{stat. is,} not merely by its subject matter. But, in fact, the same standards of intelligence & the same degree of proficiency are required of biologist & engineer alike. MAN & LIFE seem to be on all fours here: is not the distinction ^{then,} an artificial one?

A. Which ~~do we understand~~^{are} considered most objectively, understood most thoroughly, controlled most effectively: men, other living things, or the inorganic environment?

C.S. Obviously the inorganic environment must, at least



* See § 1 § 8, on the equality of status of
observed & observed.

o We commonly ~~speak of~~ ^{ask: what is} the purpose of life? thus begging the question; but the fact that (until the naturalists inform us) we ~~are~~ find this mode of speech so natural, is surely significant to all who believe that (as I do) that the vulgar ~~error~~ which outworn schools of philosophy ~~have~~ have too much to teach them.

is no other
read most thoroughly,
his environment?
Because is capable of
man, as a whole, is
a work of three levels,
according to the object he
has in mind.



St John
Eagle

St. Luke.
ox

'Life of Christ' by Angelico da Fiesole: Fl. Acad.

Jameson

A. In other words, LIFE is better at her own job (attending to the inorganic world) than MAN at his job (attending to other creatures); & both are better than man at his job, which is ^{relationships} ~~dealing~~ with his fellows. (Incidentally, it is this discrepancy between the performance of the three levels that lies at the root of ^{many} ~~much~~ of the world's present troubles.) This is only another way of expressing the fact that I am violently prejudiced concerning men, creeds, politics, customs; mildly ^{biased for & against dogs} ~~prejudiced~~ ^{in favour of dogs & other mammals, & against spiders, scorpions & the like; & entirely} open-minded about the way to dam rivers, drain marshes, & discover minerals. Whomsoever hands of a civil war about over Boyle's Law, or ^{was it} a riotous demonstration in favour of down-grading the duck-billed platypus from mammal-hood? I am a very different kind of individual at different levels: no wonder, then, that there is constant ~~the~~ tension in me between the ~~my~~ standards & requirements of these levels.

C.S. At present, LIFE may make a better showing than MAN, but, in the long course of her being, her dealings with the outer world have ~~been less~~ ^{been less} ~~careless~~ ^{less} & wasteful than her internal organisation?

A. I think they have. The common-sense criticisms ^{of the evolutionary story} ~~are~~ ^{lose their force} when directed at LIFE as a whole. Whether by the blind mechanism of natural selection or by some other means, LIFE has exploited her physical situation with what (in a lesser creature) would be called amazing ingenuity & forethought. She has 'fitted' her environment to herself (as well as herself to her environment) in a very thorough fashion: atmosphere, soil, rocks, including coal & oil, air, in varying degrees, of her own making. She lives in a world she has prepared for herself & uses. I do not say this was intentional: all I ~~maintain~~ ^{say} at the moment is that, when allowances have been made for LIFE's limits, the observer finds that her showing as a whole is more impressive than her showing as a ~~society~~ number of species. And it is by the former that LIFE, as ~~more~~ LIFE, must be judged.

←⊕

9. The unity of LIFE.

~~The~~ The ~~present~~ overwhelming contribution of MAN to LIFE is so obvious that it is apt to obscure the contribution of other species. Firstly, it must be remembered that his achievement is based upon the ^{preparatory work} ~~achievement~~ of his ~~predecessors~~ ^{predecessors}. Secondly, it must be remembered that MAN, like the other species, is a limited, relative being, & that his limitations do not coincide with theirs. ~~Added together, the total range & number of their senses is far greater than MAN's.~~

▷ Shaw makes his Don Juan speak of 'the working within me of Life's incessant aspiration to higher organisation, wider, deeper, intenser self-consciousness, & clearer self-understanding' (Man & Superman, Act III) & 1950 all must continue with a conscious & mind.



The arrows marked ① represent relationships about which there is most agreement; those marked ② represent those about which there is least agreement; the ③ series are intermediate in this respect.

▷ There is, for instance, tension between myself & MAN because I owe allegiance also to LIFE & ^{higher} still higher wholes. Just as I refrain from acts which would benefit my family at MAN's expense, so I refrain from acts (such as some kinds of vivisection) which would benefit MAN at LIFE's expense. Always it is the higher loyalty which renders the lower partial & conditional. Thus Mainwaring writes: "man has needs which escape the group & a vocation which the group does not encompass.... On the one hand, life in society is natural to the human person, and... on the other hand — because the person as such is a sort of independence — there will always exist a certain tension between the person & society." (The Rights of Man, p. 13)

* See Henderson: The Fitness of the Environment.

(Check whether it actually includes the part Sea Anger, 1948)



• [1836], V. p. 29 VII.

These different wonders upon the world: ① African stalk-eyed fly,

* For more detailed statements, see Julian Huxley's Essay "Man as a Relative Being," in Science in the Changing World, (ed. Mary Adams) p. 119 ff. and H. Munro Fox: The Personality of Animals, pp. 7, 8, 29, etc.

The well-trained 'seeing-eye' dog leads his blind master safely through ^{America's} the busiest streets. *

America's

So
* my eyes have a cold
None, bro.
Brenda

The difference is that he is aware of his limitations. Let me give a few instances. The Japanese ^{employ} the senses of the catfish to predict earthquakes: they observed that the fish behaves oddly some hours before ^{an} the earthquake occurs. * White mice are used in submarines to detect fumes. Frogs react to a proportion of strychnine too small for the chemist to discover. Gerald Heard has suggested that every animal is a possible informer of ^{MAN} 'man', who ~~must~~ should be careful to preserve them as future windows upon the world. Photographs have ^{always} actually been taken through the eyes of mammals & insects; ~~to tap the~~ ^{the auto} ultra-violet sensitivity to ~~rays~~ ^{highly} rays, the dog's ~~extremely~~ ^{highly} developed smell-sense & hearing, the radar-like sense of bats & fish, which enable them to avoid obstacles in the dark, & very many others are there to be used by MAN, & so added to his own senses. Imagination, no less than ingenuity ^{technique} ^{richly} ^{I think} ^{is} ^{essential} ^{specimens} ^{of} ^{the} ^{play} ^{mind} ⁺ Von Uexküll has endeavored to write ^{an} ^{animal's} ^{world}. Fabre, Maeterlinck, Lord Dunsany, Julian Huxley, & others have (with varying success) tried to ~~construct~~ ^{reconstruct} ^{into} an insect's world. J. B. S. Haldane * has pictured the ^{universe of a} ^{philosophical} ^{baron} ⁺ of a dog. ^{There are as many worlds as there are species, and the advance} ^{of} ^{science} ^{leads} ⁱⁿ ^a ^{frank} ^{world} ⁺ ^{the} ^{progress} ^{of} ^{science} ^{will} ^{include} ^{this} ^{discovery}. ^{It is even possible that, beside the sluggish, the position} ^{study} ^{social} ^{psychology}. ^I ^{would} ^{go} ^{further}. ^I ^{say} ^{that}, ^{with} ^{the} ^{best} ^{kind} ^{of} ^{gratitude} ^{and} ^{sympathy} ^{for} ^{the} ^{many} ^{worlds} ^{of} ^{the} ^{universe} ⁺ ^{we} ^{do} ^{not} ^{know} ^{our} ^{own} ^{world} ^{till} ^{we} ^{have} ^{known} ^{of} ^{others}. ^{This} ^{is} ^a ^{step} ^{beyond} ^{which} ^I ^{cannot} ^{go} ^{without} ^{losing} ^{the} ^{best} ^{outlook} ^{of} ^{the} ^{universe}. ^{Does} ^{one} ^{who} ^{knows} ^{what} ^{another} ^{experiences} ^{copy} ^{that} ^{experience} ^{or} ^{share} ^{it}? ^I ^{say} ^{he} ^{shares} ^{it}. ^{Knowledge} ^{is} ^{participation}, ^{not} ^{reproduction}. ^I ^{am} ^{at} ^{the} ^{level} ^I ^{contemplate}. ^I ^{have} ^{the} ^{freedom} ^{of} ^{many} ^{levels}, ^{because} ^I ^{am} ^a ^{man}, ^{yet} ⁱⁿ ^{ascending} [&] ^{descending} ^{to} ^{those} ^{levels}, ^I ^{go} ^{beyond} ^{the} ^{manhood} ^{which} ^{entitles} ^{me} ^{to} ^{do} ^{so}. ^{Thus} ^{the} ^{extent} ^{to} ^{which} ^I ^{enter} ^{into} ^{the} ^{mind} ^{of} ^{my} ^{dog}, ^{seeing} ^{the} ^{world} ^{through} ^{his} ^{eyes}, ^{is} ^{the} ^{extent} ^{to} ^{which} ^I ^{become} ^{my} ^{dog}. ^{So} ^{with} ^{other} ^{creatures}, ⁱⁿ ^{learning} ^{to} ^{get} ^{their} ^{angle} ^{on} ^{things}, [&] ⁱⁿ ^{discovering} ^{where} ^{their} ^{experience} ^{goes} ^{beyond} ^{his} ^{own}, ^{MAN} ^{is} ^{at} ^{once} ^{extending} ^{himself} ^{by} ^{including} ^{them}, [&] ^{working} ^{towards} ^{the} ^{unification} ^a ^{unified} ^{outlook} ^{which} ^{shall} ^{be} ^{LIFE'S}. A detailed discussion of this integration of the worlds of one level into the world of the next level must wait till a later chapter. The point at the moment is that continuity exists, & that the intelligence, sympathy, & imagination ^{which} ^{enable} ^{MAN} ^{to} ^{enter} ^{into} ^{the} ^{life} ^{of} ^{his} ^{fellow} ^{creatures}, is an instrument of ~~that~~ ^{continuity}.

Nature says Enoch "increase the dominion of man as much as the ass on which the Saviour rode." "I say that this is nature's way of saving herself." "The Supreme Being does not build up nature around us, but puts it forth through us." MAN uses the other species for his own purposes. But that is not the whole story: in so doing, he subverts both LIFE, & the other species. Does not the man (bird) in the Sanctuary prolong itself to include, as its extraneous organ, ~~that~~ ^{the}, using his ingenuity to preserve ~~the~~ ^{his} firm ~~the~~ ^{his} ties

And there is, in fact, abundant evidence that a common mind, or 'collective unconscious', does exist & is the foundation of all individual minds, "animal ~~rather~~ no less than human." Theoretically it should be possible to shell out of the collective unconscious not only the psychology of the worm, but even that of the individual cell." % For all mind is continuous with & accessible to mine.

* C. G. Jung: Contributions to Analytical Psychology, p. 110.

* For this ~~information~~ example & others given here I am indebted to Gerald Heard's Science in the Making (pp 82, 113, 168, 176, & 177.)

X Besides a potential window, the organism is ~~also~~ an essential part of the view through the window. 'Every object rightly seen unlocks a faculty of the soul.' If the fearful extent & multitude of objects 'not one can be spared & still leave man unharmed.' (The quotations are from Emerson: Nature, [1836], IV p. 26.

- + Paulsen: Introduction to Philosophy, p. 97.
- o The Life & Love of the Insect, etc.

- The Life of the White Cent, The Life of the Bee.
- The Flight of the Queen.
- Essays of a Biologist. See also his Essay
"Man as a Social Being" in Science & the
Common World, p. 119 ff.

* Possible Worlds, p. 276. He fact that the barnacle is a "philosophical" one ~~only~~ does not invalidate, ^{in principle} this ~~example~~, but rather ~~looks up~~ looks up, what I have to say my. This is that it is the ~~transition~~ ^{inherent} between (or the integration of) ~~the~~ MAW's outlook & that of other species, ^{in which} ~~in which~~ both realize themselves. In ^{particular} Haldane, the barnacle is beginning to ~~come~~ come into its own. — all parts of it

No one ~~part~~ ^{comes into the room.} of all parts
 part ^E the ^E ^{phenomenon}
 itself can ^{itself}



x *Nelumb* [1836], v. p29
o *Hort* VII.

three different worlds upon the world: ① African stalk-eyed fly, with compound eyes at E, ② the spider's eight simple eyes ③ a section through a cuttle-fish's eye, which, though independently evolved, is very similar to the human. See P. 111.



A male moth's antennae, by which he is able to smell a female at a great distance.

Internal combustion engines.
The gathering of the Empire
XIII
Sammie Smith
News Chronic
Nov 13th
1946



News Ch. 13/11/46

- * Science & Philosophy of the Organism
- o Program was 'in the evolution of things a continual invention of forms ever new.' Creation Evolution
- + Natural Selection & Tropical Nature. (1891). pp. 204 ff. (quoted in Ward: Reason p. 56.)
- o of Ends, p. 187.)

~~just as the body of the
is a bunch of the outward
no bunch of the outward~~

"The nature" (says Mr Gerald Heard of the Romanian dog & similar strains) "having become integrated with its master's, it is free of all he has. It goes as it will, for its will has found a fullness of life with him, beside which wilderness was captivity." * ~~It is immediate~~ is for such an animal "the immediate fulfilment of its life". *

* Code of Christ (London, 1943) p. 59.

For Plotinus, the world is an organism whose members feel for one another: there is a 'faint movement of sympathy' at the sight of any living thing. See Enneads IV. 4. 32, IV. 5. 2.

* The Problem of Pain, p. 124.

Mr Lewis believes that "man was made to be the priest & even, in one sense, the Christ, of the animals - the mediator through whom they approached so much of the divine splendour as their irrational nature allows." (p. 66)

As in the Logos, the animals point out to him the way to the Kingdom. MAN can get no further than MAN. It is not upon ~~that~~, but upon LIFE, that every species converges. Starting from a stock of protoplasm, LIFE grows by ~~dividing~~, each branch developing ~~one of two aspects~~, even MAN, the qualities of her branches, is a specialisation, incomplete without the others bringing out some character or group of characters (vision, intelligence, physical power, delicacy of adjustment, or what not) that was implicit in her from the beginning. And the same LIFE that thus diverges, to achieve a wealth of variety otherwise beyond her grasp, also converges to realize that wealth. ~~in this reunion my appearance, as needed here, plays its part.~~

© Hsun Chi'ing (298-238 B.C.) II.

* As Bergson maintains in many passages, e.g.: Morality & Religion, p. 94 ff. I do not follow Bergson, however, when he goes on to say describes the human species as that "which accounts for the existence of all the others." (p. 221) For me, LIFE is more truly myself than MAN is, because LIFE includes every contribution of every species, and so much more than MAN alone.

+ To use the terminology of Martin Buber in I & Thou, the child lives in a Thou-world, but man strikes into a It-world, out of which he must painfully climb to the Thou-world again. When we use animals & plants & things we rule into the It-world with them; when we say 'Thou' to a thing it is no longer a thing. "If only we love the natural world, really in its home, if only we venture to surround it with the arms of our spirit, our hands will meet hands that grip them."

* Thus Aristotle's notion that a species might be the body or organism of a single existing soul tends to become true. Cf. Drachmann: M. L. in S. W. pp 290 ff.

* Macpherson: A Reading of Life (1901) "Song in the Songless."

to the power of affectionate sympathy between man & beast. One of the most important functions of MAN may well be (by moral & aesthetic endeavour, no less than by his science), as C. S. Lewis has suggested, "to restore peace in the animal world", to ~~temper the fierceness~~, ^{to temper the fierceness}, cure the diseases, relieve the pain, restrain the cruelty, & ~~perhaps the best~~ ^{perhaps the best} redesign the ugliness of LIFE in the ~~new~~. To MAN the ~~beast~~ ^{beast} creature looks (so to speak) for their salvation from themselves & each other. Indeed, he is their higher self, & the well-trained animal is more ~~natural~~ ^{in the sense of being more itself} than the wild.

Underneath the canopy of heaven all species of creatures & living men depend on the Sage Man that they may find their proper station (in life). ^{in this work} MAN begins to transcend himself, & goes up into LIFE. ~~As in the Logos, the animals point out to him the way to the Kingdom.~~ MAN ~~can get no further than MAN.~~ It is not upon ~~that~~, but upon LIFE, that every species converges. Starting from a stock of protoplasm, LIFE grows by ~~dividing~~, each branch developing ~~one of two aspects~~, even MAN, the qualities of her branches, is a specialisation, incomplete without the others bringing out some character or group of characters (vision, intelligence, physical power, delicacy of adjustment, or what not) that was implicit in her from the beginning. And the same LIFE that thus diverges, to achieve a wealth of variety otherwise beyond her grasp, also converges to realize that wealth. ~~in this reunion my appearance, as needed here, plays its part.~~

Primitive man bestowed upon the creatures around him human characteristics, by the process of projection & reflexion which I have already described in Chapter II. He looked on animals neither as inferiors nor as of a different order from himself: a folk tale is full of talking animals who are just as clever, & as stupid, as man. We imagine we know better, but ~~to think~~ ^{to think} we need to come round, not indeed to the crude primitive view, but to an attitude which embraces all that is true in both the primitive & the scientific pictures of animal life. This in two ways. First, we need other species to ~~realise~~ ^{realise} ourselves as a species: only through them can we know ourselves at this level, & the 'human' awareness we project into them for this purpose is by no means a fiction. Inevitably we miss them, in spite of what they are, to our status. We save them from themselves. ~~From the dead ends, the living fossils, again some of the abundance of life which long ago they lost to us.~~ Secondly, this projection & reflexion is the more real because it is not merely a present transaction in space; its ~~basis~~ ^{basis} is the temporal continuity of all living forms - which means continuity of experience. All that has life has a view out upon the world - no matter how confused a view - & via common ancestors, every such view out is ultimately continuous with every other. When the primitive man or the child ~~looks upon~~ ^{looks upon} crocodiles & jackals his own thoughts & questions, what he is really doing, then, is to demonstrate in practical fashion ~~the fact~~ ^{the fact} that these ancestral continuity has never really been broken. ~~Bring time~~ ^{Bring time} Restore the time-dimension to the picture, & it is clear that the crocodile is an extension of himself, that he is an extension of the crocodile, & that they are one in LIFE, even as my hand & my foot are one in me.

The modern poet is more sophisticated, but he tells the same story in his own way:

They have no song, the red-bellied dog,
And still they sing.
It is whether my breast they sing,
Do I pass by.

a view which ~~is~~ ^{is} branches from that of a ~~man~~ ^{man} of experience