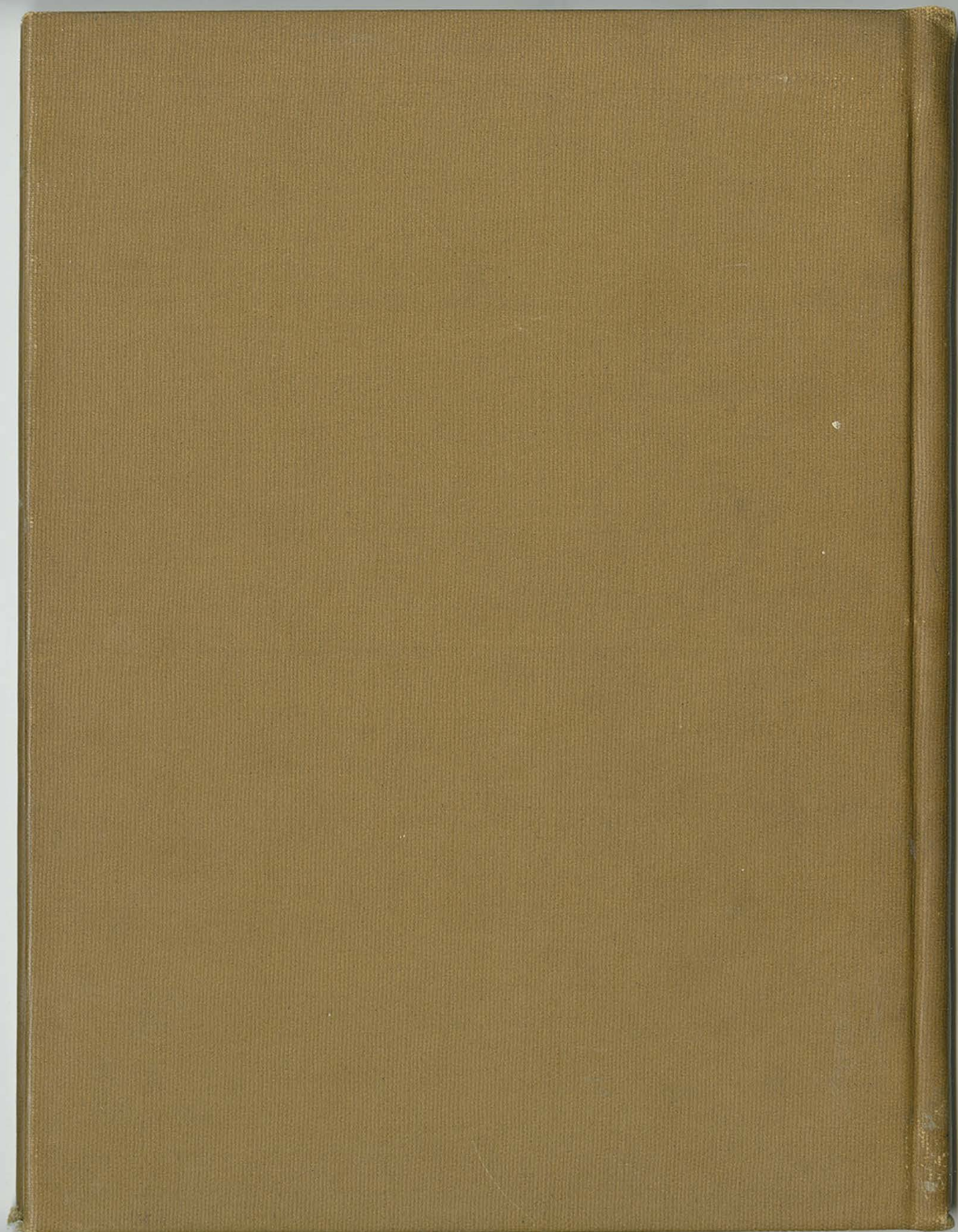
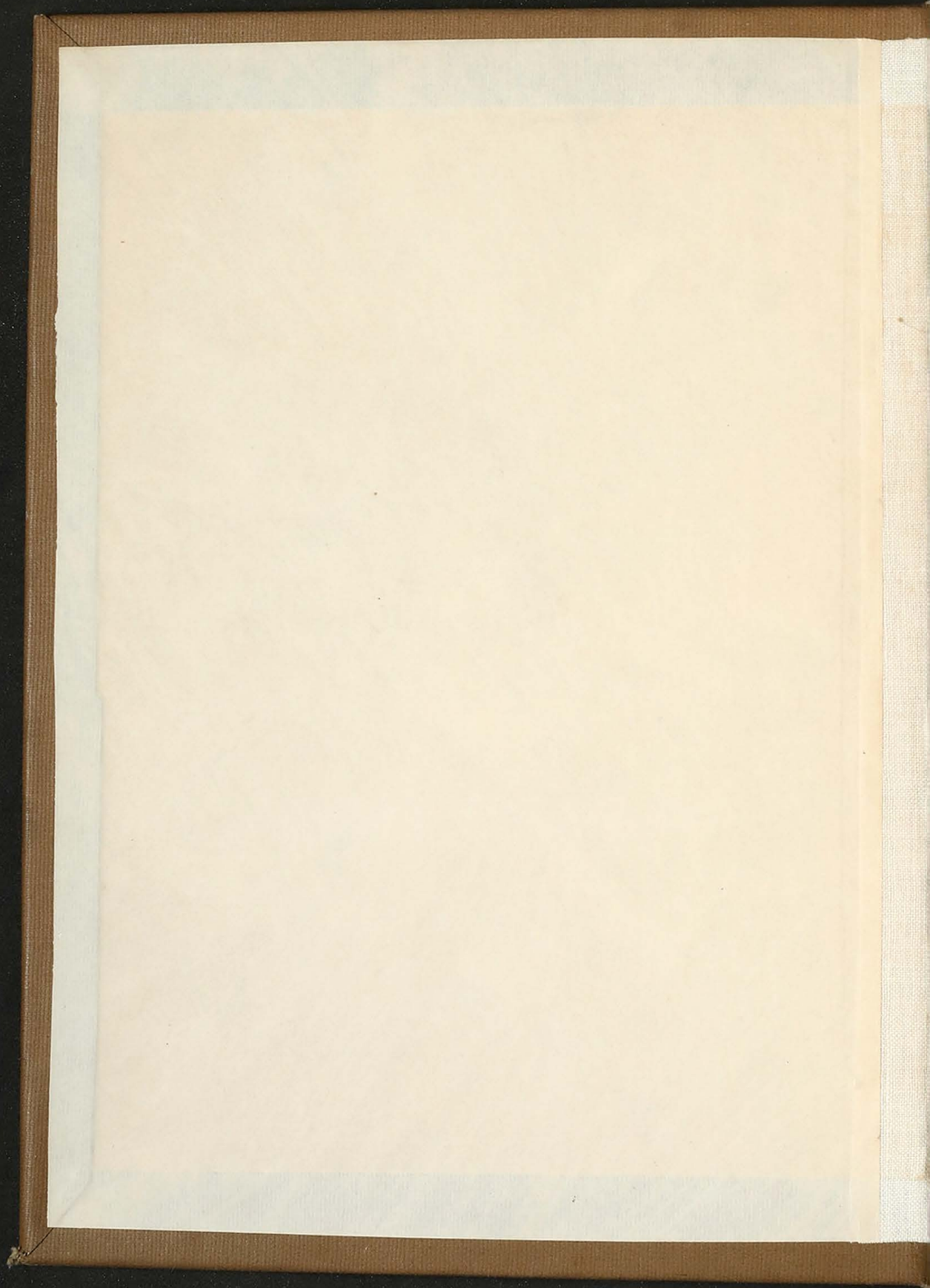




THE CONCEPT OF EMERGENCE
BY
JOHN WILLIAM AVIRETT, II, B. A.

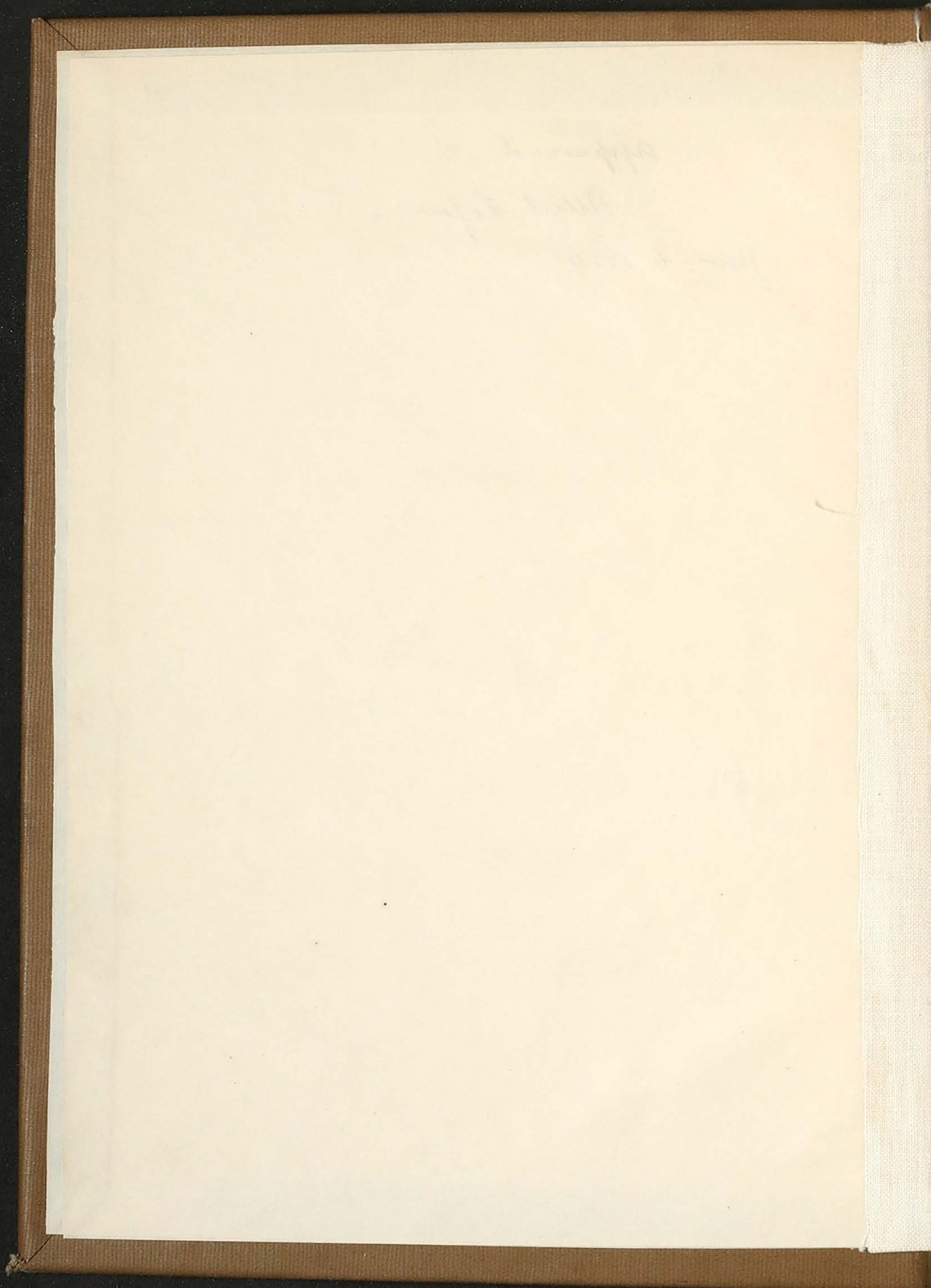




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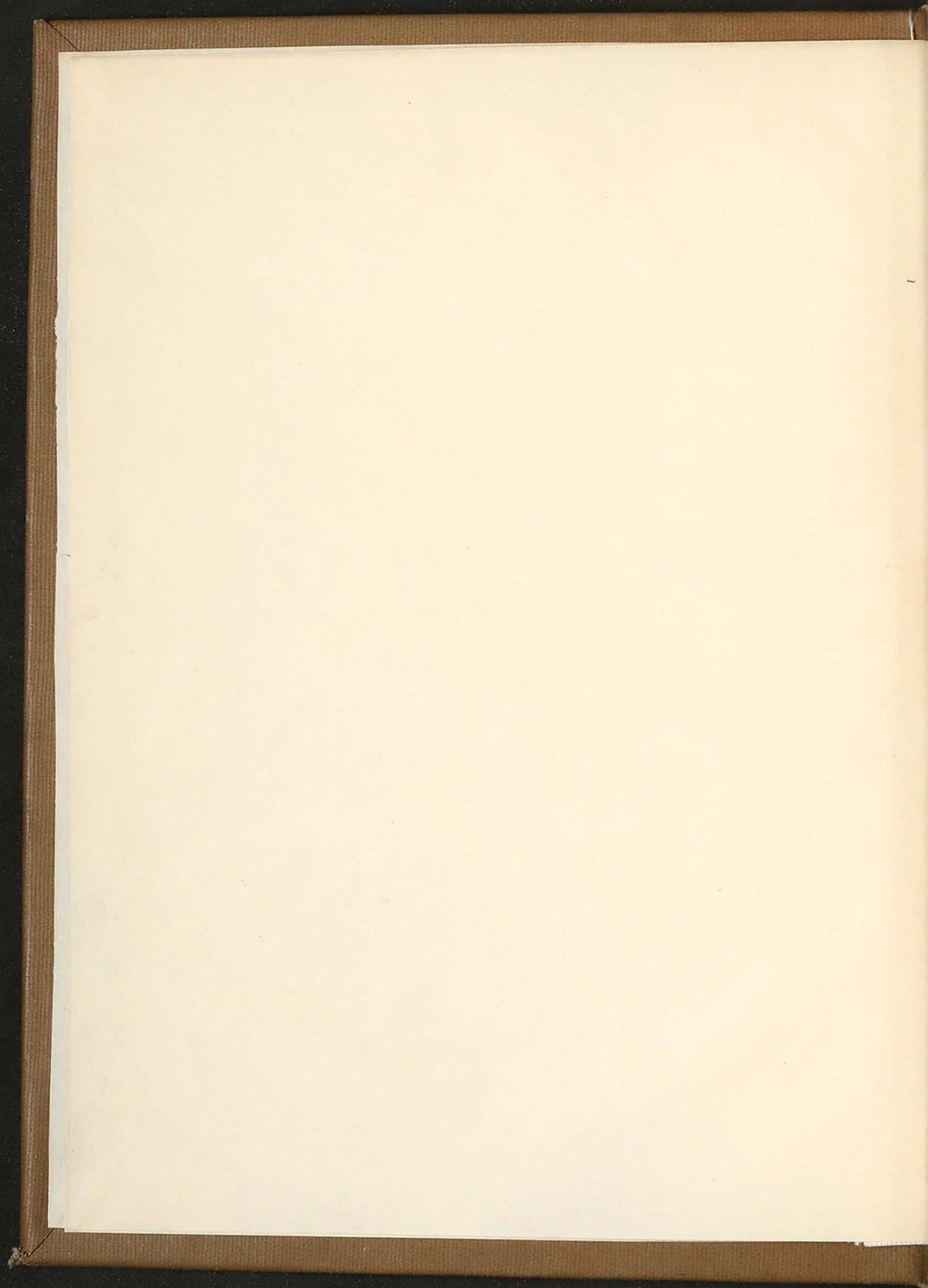
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THE CONCEPT OF EMERGENCE

A thesis
presented to the Academic Faculty of the
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in candidacy for the degree of
Master of Arts

by

John Williams Avirett, II., B. A.

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THE CONCEPT OF EMERGENCE

"Time is the most formidable and difficult
problem which confronts humanity"-
- Ouspensky, (T. O., p. 39)

-I-

INTRODUCTION

In this dissertation we shall essay a critical study of what we have termed the Concept of Emergence, a concept which in recent years has come to be the basis for a more organic synthesis of the scientific and metaphysical aspects of reality. We shall offer an exposition of the concept, its meaning, sources, application and metaphysical implication; expound the theories of the concept presented by certain exponents and indicate the points of conflict found therein; show how such points of conflict have led to the very real metaphysical problem of Activity and Causation; review the results reached in this respect; and finally arrive at some conclusions which, if not startling, should be clarifying.

But before attempting the actual exposition of this concept of emergence and its metaphysical meaning we must first plunge into the Time problem which lies behind it all and has come to play such an important part in most current philosophical thought. Let us see what it is that has called forth the above quotation from Ouspensky, the

Russian, and prompted Samuel Alexander, the Englishman, to say, "to realise the importance of Time as such is the gate of wisdom". (S. T. D., I, footnote, p. 36.)

Since thought first touched on questions of Being and Reality philosophers have differed in their attitude toward Time. It has been said, indeed, that they might well be classified on the fundamental criterion of their respective belief or disbelief in the reality of Time. From Parmenides and Plato to Joyce and Russell there have been those who have posited time as unreal and change as mere appearance. From Heracleitus and Aristotle to Bergson, Morgan, Whitehead, Alexander and other modern, shall we say, "Temporalists"? (1) there have been those who have found time real and the flux and change of things facts of actual experience. It is this latter trend which has come to be embodied in the interpretation of the concept of emergence.

As sponsor in baptism to this theory of the reality of Time, M. Henri Bergson, in his remarkable works, Time and Free Will, Matter and Memory, Creative Evolution, and Mind-Energy, pointed the way for those to follow in principle if not in actual detail. As Alexander says, "Time has recently come into its full rights, in science through the mathematical physicists, in philosophy also through

(1) The term is derived from a suggestion made by A. G. A. Balz, of the University of Virginia, in his lectures on this subject.

Prof. Bergson, who finds in Time conceived as durée, in distinction from Time as measured by the clock, the animating principle of the universe.....His work...imposes on philosophy the duty of considering, like the mathematicians in their way, what exactly Space and Time are in their relation to one another." (S. T. D., I, pp. 36-37) And as Alexander says the same point is being made by the mathematical physicists who, through such representatives as A. M. Whitehead and C. D. Broad, look to Time as something real, as the true essence of reality, as the animating principle of the universe in its process of becoming. Such is the meaning of Whitehead when he says, "The forward moving time exhibits this characteristic of experience, that it is essentially action. This passage of nature-- or, in other words, its creative advance -- is its fundamental characteristic". (P. N. K., p. 14). Such in brief is the modern attitude towards Time in contrast to that entertained in the Eighteenth Century. It is an attitude that looks to the reality of Time and its effectiveness as the motivating or rather implicit principle of activity within the developmental evolutionary process of the Universe. It may be supplemented, as in the case of Morgan, by a

still more ultimate Principle of Activity found in Deity but even in that case its effectiveness is not denied as a naturalistic explanation of the evolving process itself.

The Eighteenth Century point of view in this respect is an interesting contrast and point of departure for the more modern attitude toward this problem which we have just noted. Time for that period of scientific "mechanicalism" was in no sense taken seriously. It was merely the factor T in an equation and for such a super-intellect as that possessed by the La Placian calculator could be set aside as irrelevant to the ultimate formula of all that has been, all that is, and all that will be. Such was the point of view of Newton, the physicist, and Descartes, the mathematician. It was the attitude of that whole period of scientific interest which, by what we shall later see to be a method of abstraction, did achieve great scientific advance. This is an interesting point and one that will come up below. For the eighteenth century scientist the Universe was a closed system, one in which everything was given, one in which for that very reason everything could be calculated, given a sufficiently powerful intellect. The facts of being were all at hand and there was no becoming in the sense of the appearance of

anything essentially new. Time was for them unreal in the sense of any Heracletian "state of becoming, of continual flux".(2) Indeed, Space and Time were but the Media in which things happened.(2) It was a world of successive nows, a universe the systems of which "are, in fact, in an instantaneous present that is always being renewed". (C. E. p. 22) "In short", as Bergson puts it, "the world the mathematician deals with is a world that dies and is reborn at every instant-- the world which Descartes was thinking of when he spoke of continued creation." (C. E., p. 22). It was a world in a Universe in which Time was not real, was not effective. As we shall see, however, the world which the present day philosophical and mathematical physicist deals with is not such a world but rather one in which emergent evolution, in place of the Cartesian continued creation referred to by Bergson, is accepted as a more adequate postulate of being and becoming.

The truth is that despite the fact that the Eighteenth century point of view proved an adequate one for the basis of real scientific advance, it remained, at the same time, inadequate as an explanation of the actual facts of experience, so with the recognition of this fact

(2) Rogers, S. H. P., p. 15.

and the development of the evolutionary theories in the science of biology it became more and more obvious to those imbued with any sense of historical development that such a specialised point of view could not be entertained as the whole truth. The facts of experience pointed out that new things did appear in the Universe. Matter, life, mind and consciousness have not always been in an "instantaneous present". There was a time when there was no mind; there then came a time when there was mind. And its appearance was something new, something that could not be adequately explained by the facts at hand before its appearance. In short it became apparent that perhaps everything hasn't happened yet, that reality is still developing, that the Universe is not a closed system but one in which there is real becoming, real emergence of the new and unpredictable.

Thus the development of the biological sciences and the growing appreciation of the historical and genetic method led to the realization of the fact that new stages of being have actually appeared in the Universe and probably are now emerging in the stream of that Time which is truly the essence of reality. And herewith came the transition to a spirit widely characteristic of recent thought and the fundamental postulate that Time is real, that

reality is temporal. Such a postulate is the essential element at the basis of many present day movements in biology, physics, mathematics and philosophy. Be it used for whatever purpose that postulate stands as the key-stone to the works of those we have referred to as the "Temporalists".

With this background in view we now propose to look to certain of these "Temporalists" for expressions of this concept of emergence which we have said to be so intimately connected with the problem of the reality of Time.

II

EMERGENCE vs. MECHANISM

THE METAPHYSICAL SETTING OF THE CONCEPT

First, it will be well to note the inspiration and derivation of the concept as well as its actual definition by various philosophers whose points of view and theories embody it. By so doing we can attempt to put the concept in its proper metaphysical setting.

Following the work of such men as Darwin, Huxley and Spencer, whose limitation he so clearly diagnoses, Henri Bergson first implied the principle of emergence in his Creative Evolution. In this statement of his metaphysical views we find the various divergent streams of higher

and higher stages of life emerging from the central and ultimate stream of that duration, that la durée, which is real Time.

The term Emergent, however, first came into real use at the hands of C. Lloyd Morgan who in his Gifford lectures, entitled Emergent Evolution, presents his final theory of emergence. The actual word "emergent" he says was suggested to him by G. H. Lewes' Problems of Life and Mind (Vol. II, Prob. V. ch. iii, p. 412).

Primarily a biologist, Morgan, too, derived his inspiration from biological sciences but in turn got his metaphysical impetus from the work done before him by Bergson. It will be well to let him speak for himself as he does in the opening page of his Emergent Evolution. "Evolution, in the broad sense of the word, is the name we give to the comprehensive plan of sequence in all natural events. But the orderly sequence, historically viewed, appears to present, from time to time, something genuinely new. (3) Under what I here call emergent evolution stress is laid on this incoming of the new. Salient examples are afforded in the advent of life, in the advent of mind, and in the advent of reflective thought..... If nothing new

(3) It is interesting with reference to the recent widespread adherence to this principle to note the fact that for Ouspensky, the Russian, that "free future", which for him lies ahead, is one in which "in every given moment new forces, new events and new phenomena are born". (T. O., p.43)

emerge -- if there be only regrouping of pre-existing events and nothing more --- then there is no emergent evolution." (E. E. pp. 1-2)

In this quotation we find the nucleus of the real contrast between emergence and mechanism as interpretations of the facts of experience. The standpoint of Morgan, Bergson and Alexander is that mechanism, resting in the staticism of the older scientific eighteenth century view of the Caretsian world "that dies and is re-born at every instant" (cf. supra) is completely insufficient when applied to the life process. For that process is recognized as manifesting itself in the appearance of the new, in what Morgan calls "emergents". The life process cannot be interpreted as "only a regrouping of pre-existing events and nothing more", for such an interpretation must of necessity deny the "incoming of ^{the} genuinely new" and such a denial is untenable in the face of the actual observed facts of the case.

It has been this very fact that necessitated the concept of emergence, a concept the essence of which lies in that very "incoming of the new" which is at the same time part of "the comprehensive plan of the sequence in all natural events." And for such a concept Time must be real.

must be the actual flow of reality, must be what Alexander calls "the animating principle of the universe in its process of becoming". (cf. supra).

But from the standpoint of mechanism Time is after all simply a sort of intangible, inexplicable empty medium in which things flow or just are. In such a medium there can be nothing more than "a regrouping of pre-existing events"; there can be no real becoming. Thus the inadequacy of mechanism as a real explanation for the "creative advance" of a life process the very heart of which lies in such becoming. Hence it is that while mechanism may be applied to such a process, and in fact to all processes, its application must be limited and recognized as limited. It may give an abstract description of the observed physical facts of the life process but it is forever insufficient and irrelevant as embodying the whole truth of the reality of becoming. Such a reality seems to demand the creative advance of an ever-flowing, ever-becoming, and ever-real Time process. And it is such a process that the concept of emergence embodies.

Alexander, whose chief work *Space, Time and Deity*, presents the most comprehensive and penetrating conception of a metaphysics embodying the concept of emergence, preceded Morgan as a Gifford lecturer and like the latter owes

much to Bergson. He, however, is probably led to his point of view more by the recent development in mathematics and physics as expressed in the attitude of Whitehead and Broad and their appreciation of the reality of Time. These men, as will be pointed out more fully later, find in Time the real essence of what Whitehead calls "the becomingness of nature--its passage or creative advance" (P. N. K., p. 61). It is a pertinent fact that mathematicians and physicists should make this acknowledgement that the specialised time, which they use to such advantage and for such productive results, is after all but a selection or abstraction from the real Time implied in the concept of emergence.

As a definite statement of the aim of this doctrine of emergence, this theory of emergent evolution, we may quote Morgan. "Emergent evolution seeks to interpret, on the one hand, the persistence and continuity of natural events, and, on the other hand, progressive advance with novelty. There is a carrying forward of old relations and the emergent advent of new relations." (E. E., p. 67.) And again "the emphasis is not on the unfolding of something already in being but on the outspringing of something that has hitherto not been in being. It is in this sense that the noun (evolution) may carry the adjective 'emergent'". (E. E., p. 112.)

Having, up to this point, tried to get at the general emphasis characterizing the concept of emergence, it will be well to clear up what is common in the spirit behind the use of the doctrine, i. e. the common metaphysical setting for all its adherents, and what is different in the particular embodiments of that spirit. By this means we will better be able to reach some valid conclusions in the critical interpretation of the metaphysical problems involved and the solutions of them offered by the various particular exponents.

In the first place, common to the whole recent movement, which we shall characterize as Temporalism, is a catholic and effective effort toward the reconciliation, or rather the recognition of the complementary nature, of the various sciences one to another. In the fundamental belief that all reality hasn't happened yet, to use the phrases of James, that there is more to come, that there is in the reality of the Universal process of emergent evolution a creative advance, we find the basis of a profoundly noteworthy synthesis in the fields of biology, mathematics, physics and philosophy. That synthesis implies a belief that reality is found in life itself, an unceasing becoming which preserves the past and creates the future; that life and indeed the whole emergent process is a flow-

ing, a real becoming, a change that is a continuous movement, that endures not by remaining the same but by changing unceasingly with the introduction of the new. (4) In biology this spirit is exemplified in the various theories of evolution; In philosophy by the very works which provide the basis for this dissertation; and in mathematics and physics by the significant hyphenation of philosophic and scientific treatment by such men as Broad and Whitehead. Concerning the latter it will be well at this point to go more fully into the real essence of what was briefly referred to earlier in this paper as their recognition of the fact that the time and space of mathematics are but specialized selections from the real Time of emergence.

In this connection Whitehead minces no words by stating, "I shall endeavour to show that they (time and space) are abstractions from more concrete elements of nature, namely, from events". (C. M., p. 33.) Furthermore, "an actual event is what does become in nature. It can never happen again; for essentially it is just itself, there and then. An event is just what it is, and is just how it is related and is nothing else.....The continuity of nature is to be found in events, the atomic properties of nature reside in objects..... Every element of space or of

(4) The gist of this and in some places the wording is found in H. W. Carr's "The Philosophy of Change", chap. I.

time (as conceived in science) is an abstract entity formed out of the relation of extension----- by means of a determinate logical procedure (the method of extensive abstraction)" (P. N. K. pp. 61, 66, and 75.) And again we may quote Broad, "It does not in the least matter to science what is the inner nature of a term, provided it will do the work that is required of it." (S. T., p. 39)

Such quotations embody the whole gist of the matter. These men, scientists, or better philosophical scientists, recognize that in their particular specialized branches of knowledge they have heretofore overlooked either unknowingly or intentionally the inner nature of the terms time and space; that they have followed what they now recognize as a method of extensive abstraction, of useful selections or abstractions from the real essence, the real ultimate of reality, i. e. from what Alexander calls Space-Time, the whole of which the particular event is a part. They recognize as Whitehead so clearly puts it that an event is just what it is, a unit of Space-Time, the true essence of reality. For their purpose such a method of extensive abstraction is essential and has proved worthy as is clearly shown by the remarkably productive results achieved by it. Yet, there has always been obvious the fact that there were some things such as life itself that such a method could not explain much less account for. The eternal emergence of the new was a fact of actual ex-

perience that baffled this method of extensive abstraction and it has been the recognition of this fact that has led to the modern acknowledgement of just what the method of mathematics and physics and science truly is and its relation to the more fundamental inner nature of reality. Such an acknowledgment makes mechanism ridiculous as a final and ultimate statement of the facts of reality and of being; it forever puts the theory of "a regrouping of pre-existing events" as an explanation for a reality in which there is "creative advance" into the limbo of metaphysical discards. It has accomplished the profound good of pointing out the true relation of particular sciences and their methods to the more comprehensive synthesis of the nature of reality found in metaphysics.

This synthetic point of view has been achieved primarily as a result of the realization "of the importance of Time" and of its coming "into its full rights". In la durée of Bergson, in the Space-Time of Alexander, in the "event" of Whitehead, and in the time of Morgan we find this one fundamental concept of real Time as the essence of the process of being.

So much for that which is common as a metaphysical setting for all. There are, as might well be expected, elements of difference in detail as well as in final outcome.

In the first place Bergson's la durée, his temporal flow of reality, has in point of fact a stuff content which is life, is, for the want of a better word, consciousness. Time itself is ultimately this consciousness and "the evolution of life..... is as if a broad current of consciousness had penetrated matter..... From this point of view... does consciousness appear as the motive principle of evolution." (C. E., pp. 181-182.). In short, for Bergson there is an original impetus which is consciousness, the stuff content of Time. This impetus when detended by the anstos of matter, an opposing force, becomes extended and thus "evolution of living species within the world represents what subsists of the primitive direction of the original jet, and of an impulsions which continues itself in a direction the inverse of materiality". (C. E., p. 247). This original impetus "consists in consciousness, a need of creation". (C. E., p. 251) "Consciousness, or supra-consciousness, is the name for the rocket whose extinguished fragments fall back as matter.....and the brain (with its reflective intelligence) is the sharp edge by which consciousness cuts into the compact tissue of events." (C. E. 261 and 263.)

Now, la durée, the temporal flow of reality, is essentially temporal and excludes extensive spatiality from its ultimate nature. It is from the brain, from reflective

intelligence as the edge of consciousness, the stuff-content of Time, that spatial relations come. His Time with its content of consciousness is the penetration of the past into the present and as such has no spatial quality. From out this primary postulate emerges mind and reflective intelligence and it is from the latter that spatial relations are created. He recognizes that spatial relations are facts presented by reflective consciousness but insists that they are not of the ultimate nature of Time but rather products of reflective intelligence which in turn springs from consciousness--the stuff content of Time. (5)

Alexander, on the other hand, being more of a realist sees in such an explanation nothing more than a roundabout method. For him spatial relations and temporal relations are of a piece with reality itself. His matrix from which all emerges is hyphenated Space-Time, the "stuff" of all things both mind and matter. The nature of this Space-Time is such that relevant selections of space and time can be made from it as an intellectual method such as that used by Whitehead but when considered in such separation they must be recognized as selections, not as ultimately real. For in reality they are inseparable aspects of the one Space-Time. Space is the content of Time and Time is the unifying principle for Space. Every spatial point in the Universe has its temporal instant, every where its

(5) cf. T. F. W. chap. II. pp. 75-139.

when. Hence Space-Time as a whole finds its particular manifestations in point-instants and the common characteristic of all is motion, change, an impetus towards emergence and a creative advance. Thus, where Bergson has to furnish a genesis of space from the non-spatial - by reflective intelligence - Alexander accepts the facts of experience as they are and makes his primary postulate Space-Time, the ultimate source of both relations. (6)

Morgan's position in this respect is a bit obscure. He seems to accept the Space-Time of Alexander, "with natural piety", as an adequate postulate for a naturalistic explanation of the facts of experience and yet by his doctrine of proficient reference tends to give mind a constituent and fundamental role in the construction of the objective world. He here shows the influence of Bergson and even more a decided inclination toward Kantian epistemology. The latter influence is even more pronounced in his positing some objectively real substance, some unknown X, which he calls "physical events" and "acknowledges" but holds to be beyond any proof. It is an acknowledgement of a sort of agnostic lower limit below which there can be no proof and yet there can be (and is, in his case) firm belief. (7)

As a result of these three positions we have as

(6) cf. S. T. D., I, chap. I, pp. 35-65.

(7) cf. E. E. chap. I, pp. 23-25; chap. II, pp. 35-64.

many different attitudes towards the objective world as it either is presented to, or constructed by consciousness, or is the result of both processes. For Bergson the objective spatial world of actual experience is the product of mind. (8) For Alexander it is real in itself and is directly apprehended by the mind through intuition. And for Morgan it is partially real in itself, in so far as it has the element of "acknowledged" physical events, and partially a product of mind, in so far as it is in part constituted by the mind through proficient reference.

As an element of difference that will have a more fundamental bearing on our discussion of the metaphysical outcome of each of these men there is the question of the effectiveness of Time as the principle of activity within the process of emergence. For Bergson and Alexander Time is effective, is an adequate principle of activity, is activity; for Morgan such is the case only in a limited way. As a naturalistic explanation of the process of emergent evolution he accepts Time as effective. But as the ultimate

(8) This statement is obviously too sweeping in view of the fact that Bergson's exact position in this connection is exceedingly complex and obscure, as is pointed out in the review of "Mind-Energy", by A. G. A. Balz, Journal of Philosophy, XVIII, No. 23, Nov. 10, 1921. In as much however as the point has more importance for the epistemological aspect of the subject than for the metaphysical, which we are here treating, I shall not go into the matter further but let the statement stand as adequate for its relation to our discussion.

Principle of activity for a constructive system of Philosophy he must appeal to a more omnipotent principle to supplement Time and yet be both independent of and omnipresent with the process of emergence. This difference is the crux of the metaphysical problem for Alexander and Morgan and marks the parting of the ways which lead towards their respective final outcomes.

As a result of this divergence we find the difference in attitude toward deity. For Alexander deity as the richest form of emergence reached at every level of evolution is found in the emergent process itself. "Within the all-embracing stuff of Space-Time," he says, "the universe exhibits an emergence in Time of successive levels of finite existences, each with its characteristic empirical quality. The highest of these empirical qualities known to us is mind or consciousness. Deity is the next higher empirical quality to the highest we know; and, as shall presently be observed, at any level of existence there is a next higher empirical quality which stands toward the lower quality as deity stands toward mind..... There is a nisus in Space-Time which, as it has borne its creatures forward through matter and life to mind, will bear them forward to some higher level of existence.... Deity is thus the next higher empirical quality to mind, which

the universe is engaged in bringing to birth. That the universe is pregnant with such a quality we are speculatively assured....For any level of existence, deity is the next higher empirical quality. It is therefore a variable quality, and as the world grows in time, deity changes with it. On each level a new quality looms ahead, awfully, which plays the part of deity. For us who live upon the level of mind deity is, we can but say, deity. To creatures upon the level of life, deity is still the quality in front, but to us who come later this quality has been revealed as mind. For creatures who possessed only the primary qualities, -- mere empirical configurations of space-time, -- deity was what afterwards appeared as materiality,On each level of finite creatures deity is for them some 'unknown' (though not 'unexperienced') quality in front, the real nature of which is enjoyed by the creatures of the next level." (S. T. D., pp. 345, 346, 347, 348)

Thus for Alexander the deity of any level of emergent evolution is that infinite ideal ahead towards which the *nisus* in space-time is striving and which as the process of becoming advances will in turn become actual and with that finite. It will then be superseded by another ideal infinite Deity. For Alexander deity as a quality and deity as an ideal both reside in the process of emer-

gence itself. The result is that his theory is one of a hierarchy of qualities, each succeeding one being richer in content. Thus the hierarchy advances with the deity of creatures having mere empirical configurations of space-time being what later appeared as materiality, the deity of matter being life, of life being mind, of mind being reflective consciousness, and of the present level being some unknown but not unexperienced infinite ideal ahead which we objectify as the Deity. In his optimism Alexander feels that we can be assured that as the process of becoming goes on this new quality in front of us now will in turn emerge, thus become finite and actual, and then be supplanted by another infinite ideal still further ahead. (9)

For Morgan, on the other hand, Deity is the actual Principle of Activity, behind or rather before the process and ever pulling it upward and onward. It is God who is independent of the Time process and is yet the necessary supplement to Time as the activating principle of that process. It is a God which, like the "physical events", can only be "acknowledged", never proved. It is thus above what we may call the upper agnostic limit in Morgan's philosophy and is not in the stream of emergence itself as for Alexander. (10)

Now, these two attitudes towards the effectiveness

(9) cf. S. T. D., II, Bk. IV, chap. i.

(10) cf. E. E., chap. I, pp. 9, 13, 33-34; chap. II, pp. 61-63; chap. X, pp. 298-301.

of Time and towards the nature of deity are really interdependent and lead us to the real fundamental metaphysical meaning of this whole concept of emergence. It is in the problem of Activity and Causality, the basis for which is found in the above difference between Morgan and Alexander, that the real heart of the whole discussion lies. It is toward the interpretation of this problem that we are now headed. But, that we may have the whole ground cleared there must be one more transitional step that will explain the actual use made of the doctrine of emergence to describe the facts read off from nature and physical experience. This will give us a better insight into the true nature of the metaphysical implication found in the fact of such a description.

III

EMERGENCE

IT'S MEANING AND METAPHYSICAL IMPLICATIONS

In any concept of emergent evolution the facts of experience are read off from nature and physical phenomena as indicating an evolutionary process of development wherein at certain crises in the process of becoming new emergents appear. Such emergents must be distinguished from mere resultants as Morgan points out. "There may

often be resultants without emergence.... through resultants there is continuity in progress; through emergence there is progress in continuity." (E. T. p. 5.) Resultants may thus differ in quantity but not in kind. They are in kind of a piece with the continuity of progress. Emergents on the other hand appear as things new to existence. The emergent quality differs in kind from the qualities preceding it in the process of evolution. Life, when it emerged differed in kind from matter, mind in turn differed from life and so on. Thus emergents make possible actual progress, actual creative advance, in continuity. So it is that those adhering to the concept of emergence read off from the facts of experience the obvious truth that what we call emergents do appear and are different from mere resultants.

We should here note that after all we can distinguish two meanings of emergence, the first, being entirely descriptive as it is for biology and having no direct metaphysical implication, the second, being involved with the problem of activity as it is for the philosopher and thus having real metaphysical implications.

Now the facts read of from experience make emergence in the first sense necessary as an adequate statement of reality. Hence it is that the biologists appeal to evolution as the only possible explanation of the life pro-

cess with its continual emergence of the new and unpredictable. As pointed out emergents do appear and are different from mere resultants.

Such being the case the question immediately arises how and whence these emergents and the answers hark back to a point already touched upon, namely the effectiveness of Time as the principle of activity within the observed creative advance. And it is here that emergence in the second sense with its metaphysical implication comes before us. We have noted that the facts of experience make emergence a descriptive necessity. Then what does this mean metaphysically? The answer to this is the answer to the question of how and whence the emergents and in it lies the difference between Alexander and Morgan. If Time is ultimately effective, as it is for Alexander, then it will suffice as the impetus behind or rather within the process of emergence. That process will be real and Emergence will be a metaphysical term describing one of those pervasive features of reality that for Alexander is a valid metaphysical topic. If Time is not ultimately effective and there is no appeal to a vital force, then, as in Morgan, there must be an appeal to some Activity prior to the process -- some sort of a producer -- and this must of necessity make the process itself less rich, less real, than for Alexander. Let us now go into both sides of this

conflict seeing just how Alexander and Morgan do apply the concept of emergence to the facts observed. We can thus note the metaphysical implications there involved.

As stated before both Alexander and Bergson attribute to Time and the temporal process an all-sufficient effectiveness. And it is here well to note the distinction that Alexander makes between change and becoming. (11) Change involves resultants whereas actual becoming implies real emergents. Hence for him the creative advance in the Universe is a becoming just as it is for Bergson. It is a perpetual flowing, a process of becoming, of emergence, ever marked by the appearance of the new which differs in kind from that which has come forth from the process before. In such a process we are able to observe an read off the ⁴conditions which are present at the appearance of the new and such conditions, if recognized merely as conditions of emergence, -- i. e., the grouping of natural facts with-
ing which there is emergence -- can be accepted as constituting an adequate descriptive explanation of the process in so far as science is itself adequate in this respect. But conditions as causal antecedents must not be confused with what are called causes as creative motivating

(11) Note that Alexander suggests that time might be pendular in which case there would be inner change but no becoming. For becoming time must not only be irreversible but also uniform in direction rather than pendular. This Alexander points out. S. T. D., I, p. 51 et seq.

grounds. For emergence in that Universe in which the Time process is real and effective no causal account can be given for the appearance of the new. The real ground is in the process, of the process, is the process itself and nothing more need be posited. The statement of the conditions must be recognized for what it is, an abstraction from the process itself which is the reality and is sufficient. As Alexander says, "The cause is always a reason, but a reason need not be the cause..... causation is a process.... is in fact not stationary, and its continuity does not mean that at any one instant the cause is succeeded by something else which begins at the next instant but that at any instant is the point of passage of a motion. To repeat an often-stated proposition, continuity is the conceptual formulation of motion itself, and, hard as it may be to say where cause ends and effect begins, yet, if the cause is itself a process and effect another and different one, the relation between the two is the transition of the one which is earlier into the later motion, or group of motions." (S. T. D., I, pp. 297-299.) Hence, in the eyes of Alexander and Bergson any questioning for a cause, in the old scientific use of the word, is irrelevant to the life process; for causation is, as productive, the real process itself; as physical, chemical,

etc. causation, it is an intellectual construction resting in selective abstraction. We cannot ask what caused mind to emerge from the vital level of development as a higher stage in the creative advance. Such a question is meaningless unless by it we simply ask for a statement of the conditions observed as present in experience at the time of such emergence. If the latter is implied then an answer can be given in terms of the biological and physical sciences. If on the other hand, the question seeks a cause which is the quantitative equivalent of the effect, then there is no answer other than that intellectual construction which we have pointed out to be an abstraction. For such a principle as the quantitative equivalence of cause and effect is insufficient to the life process, the real becoming emergence. Causation as the stimulus for new emergents resides in Time itself, in la durée; it is in the stream of becoming and need not be sought elsewhere.

But for Morgan we cannot stop here. He accepts such a natural explanation as descriptive of the facts of experience but that is not enough. For him there must be a distinction between an adequate naturalistic explanation and an adequate constructive system of metaphysics. As such a descriptive explanation he grants the effectiveness of Time but for an ultimate metaphysical view of the Universal process he denies it or rather ought to deny it to be con-

sistent, and must seek elsewhere. There must be more omnipotent grounds for the process of emergent evolution, there must be a greater Principle to supplement Time. Such a principle he grants cannot be read off from the facts of experience. But in his mind neither can the effectiveness of Alexander's Space-Time be so read off from nature and for that reason be accepted as proved. Hence, as his lower level of being that can actually be experienced he sets something that is not only temporal and spatial but also physical. He does not feel that the facts justify his going any further and questions the validity of Alexander's doing so. He says, "Space-time is, for him, (Alexander), the primordial base of the pyramid and was existent prior to the emergence of any physical events. And spatio-temporal relatedness is effective at any rate in the sense that it affords the foundational go of the universe through the ceaseless flow of time.....(But) I seek in vain for evidence that spatio-temporal relatedness does exist apart from physical events. I can pierce no deeper than events which, in their primordial form are not only spatio-temporal, but physical also". (E. M. pp. 23-24) (As a matter of fact Alexander would no doubt say that that is as deep as one need penetrate.)

So, for this reason, Morgan reaches an agnostic lower limit. Yet he has boundless faith and feels that be-

low that level there are some "physical events", as he calls them, which can be "acknowledged" although they cannot be proved by the facts of experience. And he does acknowledge their existence and the fact that they do play a partial role in that synthesis which, with the constitutive element that the mind plays through proficient reference (11), forms the objective world that we experience.

At the same time this is not all. As has been said he questions the validity of the assumption that Alexander's Space-Time, his "spatio-temporal relatedness, is effective.. in the sense that it affords the foundational go of the universe through the ceaseless flow of Time". (cf. above) Then what is the foundational go and whence and where the appearance of emergents? Having denied the dynamic character of the flow of time he must now seek some force outside the Time process and is thus forced to "acknowledge" a Deity, a Principle of Activity. This Principle is above his upper agnostic limit and, removed from experience and thus from proof, must be "acknowledged" on faith.

(11) Having used this phrase several times it will be well to give a brief idea of the theory. For margin all that is minded is within us; certain "properties", which are really mental, are by the mind proficiently referred to physical things in the non-mental world. The physical events which he acknowledges exert an advenient influence toward which as an essential part of the resulting objective world there is proficient reference of qualities and properties by the mind. The mind "is in no sense a mere spectator... it is a participator... in making the objective world what it is." (E. E. pp. 48, 50 and 51. cf. E. E. pp. 45-53.)

the first thing I saw when I stepped out of the car
was a vast expanse of water, stretching as far as the eye
could reach. The water was a deep, dark blue, and the
sky above it was a lighter, hazy blue. The sun was
low in the sky, casting a warm, golden glow over the
entire scene. The water was calm, with only a few small
ripples visible. The air was still, and the only sound
I heard was the gentle lapping of the water against the
shore. I felt a sense of peace and tranquility, as if
I had found a hidden oasis in the middle of a desert.
The water was so still, it was like a mirror, reflecting
the sky and the sun. The colors were so vibrant, it was
like a painting. I stood there for a long time, just
looking at the water, feeling the warmth of the sun on my
face. It was a beautiful sight, and I had never seen
anything like it before. The water was so clear, I could
see the bottom of the lake. The sand was a light brown
color, and the water was a deep blue. The sky was a
pale blue, and the sun was a bright yellow. The whole
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Thus for Morgan the facts of experience that can be read off from nature's phenomena present a Universe in which we can accept the effectiveness of Time only as a naturalistic explanation of the observed facts. But for him that explanation cannot and does not suffice for a constructive system of philosophy. It has upper and lower limits of actual experience that must be transcended by a faith that will acknowledge as beyond proof, but yet real, first, the advenient influences below the level of those spatio-temporal relations which are physical, and second, truly effective final Principle of Activity which is above and without the Time process itself. How far such a position is tenable and the vulnerable spots in it which Alexander would no doubt attack we shall see, having now got to the real metaphysical problem presented by this doctrine of emergence to the truth-seeking thinkers of the world.

IV

ACTIVITY

THE METAPHYSICAL PROBLEM OF EMERGENCE

The real metaphysical problem is that of activity and causality and while Alexander's position toward the problem has been stated in scattered references we will do well to let him speak for himself in this connection.

"The world", he says, "which is Space-Time never and nowhere came into existence, for the infinite becoming cannot begin to become. It could only do so in a larger Space and Time and at the order of some cause exterior to it. Now all existence arises within Space-Time, and there is no cause which is not itself a part of it.... Space-Time therefore does not exist but it is existence itself, taken in the whole..... Being Time (or indeed Space, which is the same thing) it is not, as Mr. Bergson rightly says, given altogether. To suppose so is to ignore the reality of Time, to fail to take Time seriously..... It is in no case a unity of many things; it is not a one..... It can only be described as the one;..... the one and only matrix of generation, to which no rival is possible because rivalry itself is fashioned within the same matrix..... In truth, infinite Space-Time is not the substance of substances, but it is the stuff of substances.... Just as a roll of cloth is the stuff of which coats are made but is itself not a coat, so Space-Time is the stuff of which all things, whether as substances or under any category, are made..... The stuff of the world is indeed self contained in that there is nothing not included in it. But it is not the supreme individual or person or spirit, but rather that in which supreme individuality or personality is engendered, as we shall have to note in the sequel. Nor can it intelligibly be called the cause of

itself..... For it is clear that Space-Time takes the place for us of what is called the Absolute in idealistic systems. It is an experiential absolute." (S. T. D., I, pp. 338, 339, 341, 346.) In short, Space-Time itself is the one and only matrix of all reality which is temporal and evolving. It needs no cause for it is intrinsically the causation process itself. In its ever emerging becoming Space-Time is activity, is an intrinsic go, and nothing extraneous is needed to start the process. "The infinite becoming cannot begin to become." It is an "experiential absolute" principle of activity through which runs what Alexander calls a *nisus* or emerging force which is manifest both in new emergents and in a continual upward movement toward what we shall later see to be an infinite ideal or deity which it is creating by the very striving which is the real process. "All existence arises within Space-Time" and we need look no further for any extraneous principle of Causality or Activity to start the process.

This Morgan will not accept. For him there is a distinction and a crucial one between causation and Causality, between activity and a Principle of Activity. "We may regard," he says, "the total goingness of any given system as its activity -- in the sense of 'something doing' as contrasted with 'nothing going on'. Or we may, and commonly do,

apply the word 'activity' to intrinsic go". This, for Morgan is the activity of Alexander's system, this "total goingness" he accepts as the only valid effectiveness of the Time process, and as such it is sufficient causation for a naturalistic explanation of the facts read off from actual experience. But as we have said there is for him more to this Universe of ours that we can actually read off from natural phenomena. There is the reality of "physical events" below the level of proof and there is the reality of an ultimate Principle of Activity above the level of proof. Both these realities he acknowledges as essential and the latter is for him the Principle of Causality, the real activating force in the Universe of becoming. It is a Force that is outside the Time process and is yet omnipresent with it in every stage of developmental emergence. It is the producing Causality behind all that "total goingness" which we, within are human agnostic limitations above and below, are able to read off from nature and describe as the Time process. It is on this Principle of Activity, this extrinsic Go, that the whole evolutionary process depends. Furthermore for Morgan "causation and Causality are not contradictory in any strict sense". (12) "They do not belong to two realms or to different orders of being; nor is there any gulf. There

(12) E. E., p. 297; cf. 297-301, for Morgan's conclusion to the whole matter.

is one realm within which both are always present." (E. E., p. 207) This world we judge to be some more ultimate Universe in which are found related within the same system not only our world of Time and physical phenomena but also his two acknowledged realms of physical events and Ultimate Causality. For as he says, "if we acknowledge Divine Activity, of which for my constructive philosophy emergent evolution is the expression, it is to be conceived of as omnipresent and manifested in every one of the multitudinous entities within the pyramid". (E. E., p. 13) (The pyramid being that of the progressive stages of evolutionary development which through the emergence of new qualities is ever reaching higher, richer and more intense levels.)

"If in other words, we may acknowledge physical events as ultimately involved, and God on whom all evolutionary process ultimately depends; then..... we may accept both causation and Causality without shadow of contradiction." (E. E., p. 298.) Thus his position towards the problem of Activity and Causality in denying the ultimate effectiveness of the Time process leads him to go outside that process and introduce what for him is the real Principle of Causality, the real Divine Activity. This force he claims is not essentially extraneous to the Time process which depends upon it for its dynamic character but is rather related to that process in its every stage of development.

But right here is where, in the eyes of Alexander, the realist, Morgan has gotten himself into a dilemma. Alexander's criticism would be that sooner or later Morgan has got to face the problem of the reality of time. That problem has but two solutions between which there can be no compromise position such as Morgan in part adopts in his distinction between time as effective for a naturalistic explanation but ineffective for the more ultimate constructive system of philosophy. This, for Alexander is simply a denial of the reality of time because for him a naturalistic explanation accepted with "natural piety" is the only adequate constructive system of philosophy and metaphysics. But to get back to Morgan's dilemma. He must either accept or reject the reality of Time. Either Activity is in Time, is Time, or it is not. If it is, then it is another name for Time or Space-Time; if it is not, then Time is a phenomenal manifestation of a timeless Activity. From such an assumption arises the problem of having a timeless Activity, an extrinsic go, present in every entity and emergent in the evolutionary process. Thus if Morgan accepts the reality of time he is then right back with Alexander and needs posit no extraneous force as a Principle of Activity. Such a postulate is simply going outside the Time process and thereby denying the reality of that process which we have assumed him to have accepted. In short if he accepts the reality

of Time as a process of becoming he needs nothing more and is in complete accord with Alexander. But this Morgan cannot do. His whole metaphysical position is based upon the acknowledgement of a real Divine Activity. Hence, as we have just pointed out, he must take the other horn of the dilemma and fundamentally deny the reality of the Time process.

In doing this, however he has become confronted with another and even more serious difficulty, that of logically deducing becoming from being. By denying the effectiveness of the Time process which he has admitted to be of the essence of our world of experience he has reduced that world into one of continuous succession rather than continuous becoming. For if the motivating force of the creative evolutionary advance resides outside the stream of that process and every emergent step in that advance has to be activated ultimately by that extraneous force, then, in place of a temporal process that is becoming he must have a temporal process that is in essence mere succession. And such a process, in the eyes of Bergson and Alexander, would have omitted from it the real dynamic nature of Time. In such an omission Morgan is in danger of coming back to the discarded theory of Time as an empty medium in which things flow. In it there will be no real permeating becoming but rather a continual abolition of being and a recreation by an outside force. Such a theory is for Alexander untenable for it embodies just that fallacy which earlier in the

paper we noted as being recognized by the modern mathematicians and physicists as characteristic of their methods. In such scientific treatment we find a splendid analogy. For methodoligal reasons we find Whitehead using a specialised process of extensive abstraction in the disentangling of space and time from the reality of Space-Time. By this means science is able to arrive at a succession of atomic moments and abstract points. And the method is a valuable one for the specialised work of science. But it is recognized for what it is, an abstract selection of terms from the real Space-Time matrix of the Universe. Hence when the mathematician turns philosopher and metaphysician and seeks true becoming and reality he must reintroduce the life blood into his contentless time and his unrelated spaces by the hyphen in Space-Time.

So Morgan in disentangling causation and Causality, activity and Activity from the real temporal process of becoming has arrived at a theory of the world in which there cannot be real becoming but rather mere succession. But Morgan is too good a biologist to take such succession as the true essence of reality. He knows that there is real becoming in the world of experience, that there are true emergents appearing at the various stages of evolutionary development. Hence he must reintroduce life-blood into his

barren continuity of succession and is thus forced to go outside the time process and posit a Principle of Activity so located. By denying the effective reality of the time Process he turns becoming into succession and is then forced by the facts of experience read off from natural phenomena to put some effective reality, some activating Causality back into the process from without. In short he has followed his initial denial of the reality of the becoming Time process to its logical conclusion and that conclusion has led him in the eyes of Alexander into another fallacy, namely that of genuine anthropomorphism.

For Alexander and the new realists it is sheer anthropomorphism to follow the "infinite regress" in search of an antecedent cause for such a process as that of emergent evolution which is in fundamental essence becoming itself. To err is human and it is human, all-to-human to seek ultimate antecedent causes for observed effects in the life process. For such a search leads to what we have referred to as an infinite regress of cause behind cause behind cause ad infinitum. Searching for such a final cause Morgan reaches his upper agnostic limitation and then jumps the gap by means of "acknowledgement" of the Divine Activity beyond. This Divine Activity he claims to be related to the emergent process but its relation is not made very clear. The gap which must be "acknowledged" is still there and we doubt seriously if it can be bridged in the eyes of

Alexander, the realist. For Alexander, Morgan's whole position in this respect is fallacious. Confronted with a succession of his own making Morgan has attempted to re-constitute process out of that succession. His fundamental error was in taking the reality out of that Time process which is becoming. In doing so he is left with a mere succession which is an abstraction from real becoming, the true process which is suggested by the facts. The facts cannot be denied, says Alexander, and in being compelled to appeal to an outside force Morgan has proved it.

V

CONCLUSION

FAITH AND OPTIMISM

What then, it will be asked, is the outcome of it all? And the answer should be at this stage of the discussion so well indicated that recapitulation will savour of repetition. So we shall be brief, placing emphasis on the problem of deity involved.

Common to Bergson, Alexander and Morgan is a belief in the process of emergent evolution as the true statement of the observed facts of being and becoming. All realize that emergents appear, that the creative advance has proceeded upward through higher and richer stages of

being, each differing from the other in quality as the result of the appearance of the new emergent element. Common to Bergson and Alexander is the fundamental postulate of the real and ultimate effectiveness of the Time process as the essence of this stream of becoming and the common fluent force that, permeating each stage of development makes the whole a creative process rather than a mere abstract succession. Morgan recognizes the reality of this Time process as a fact but in denying its ultimate effectiveness has exposed himself to the critical slashing which we have just noted. For all three the concept of emergence as the theory of becoming is accepted and proclaimed as the real and adequate explanation of the true facts of being. But the problem of Activity has led them to different outcomes.

Alexander offers his unified naturalistic interpretation of the facts of being and becoming as the be-all and the end-all of the matter. The Time process is real and effective in the most ultimate sense, constituting as it does a becoming for which it is irrelevant to seek any further motivating principle. Causation is a process and for Alexander that process is becoming, is creative advance, in which time is real and time is earnest and emer-

gence is the goal. Such a doctrine must needs lean towards Pantheism and it does. Throughout the evolutionary process there is at each stage an infinite ideal ahead, the nature of which cannot be predicted. Throughout the process there is a *nisus* or striving upward toward that ideal and at every level such an ideal is the deity of that level. As emergent evolution proceeds with its creative advance the deity of each level in turn actually appears as an emergent and at once becomes finite and real. Thus for matter life was deity and for life mind. Not that in the level of life mind, as its deity, could in any way be predicted. That would be to deny its uniqueness as something new when it emerged. But deity is rather the name which, on looking back over the evolutionary process, we can give to each emergent in its reference to that level of development preceding its appearance. Hence deity is for Alexander an emergent quality. And today at our level of development there is an infinite ideal ahead of us, unpredictable, unknown, but striven for as an ideal and called deity. It is this Deity which under the name of God is objectified and worshipped. Thus, for Alexander, "God as actually possessing deity does not exist but is an ideal, is always becoming; but God as the whole universe tending towards deity does exist." (Mind, XXX, p. 428) But note that all this tending towards

deity is within the creative temporal process itself, is the nîsus running through that process of becoming, and is not outside that stream of emergence.

Morgan, whose final outcome cannot be definitely stated as yet due to the fact that the second volume of his "Emergent Evolution" has not been published, has indicated so clearly what that outcome will be that we have little hesitancy in giving it as fact. He accepts Alexander's naturalistic interpretation of the observed facts of nature as a valid descriptive explanation and, in so far as the Time process is but a part of that explanation he grants its reality as one of becoming. He further acknowledges the existence of physical influences as factors in the sum total of reality. But he also posits, acknowledges and unequivocally proclaims the real existence of a Divine Principle of Activity, a Deity that is God and as such is the ultimate force behind the whole universal process of emergence. His God is real and yet infinite, is outside the time process and yet omnipresent with every stage of development within that process. His outcome is in a sense Deistic where Alexander's is Pantheistic. Morgan, like Alexander, minces no words in this connection. So let us hear his creed. "I want to nail my colours to the mast. In credal terms, I believe in a physical world and

in systems of events from which there is what I have called advenient influence..... But, as I contend, the concept of involution must, on the evidence, be supplemented by a concept of dependence. Again I want to nail my colours to the mast. This is the part of the philosophic creed I seek to render acceptable. Within the pyramid of emergent evolution involution without dependence gives an incomplete account of the observed phenomena from what I hold to be a strictly scientific point of view. From the philosophic point of view, I carry both to their ideal limits. I acknowledge a physical world which, I admit, is beyond proof. I acknowledge also God Who is, I contend, beyond disproof." (E. E., p. 59-61.) This God he claims to be the ultimate Principle of Activity upon which even the Time process depends. "The operation of Activity.... can nowise be restricted to any level in our pyramid---either to that of life, or of mind, or of reflective consciousness, or of deity. Acknowledged Activity is omnipresent throughout if it be present at all." (E. E., p. 208)

This acknowledged Activity is for Morgan not something that supersedes the interpretation under emergent evolution but rather the necessary supplement to that process. "If we acknowledge God we nowise supersede inter-

in question of events that there is what I have called
elemental influences..... But, as I pointed out, the
of individual work, on the contrary, is characterized by a
series of repetitions..... Again I want to call up before
to the mind, this is the part of the individual work
I want to mention something, within the limits of course
evolutionary influences which are always given in human
life account of the human elements from that I call
to be a relatively stable point of view, from the point
of view of what I mean with so many lines, which
I understand a system would mean, I think, in terms
work, I understand also that the law, I understand, human
element, "It is, of course, this one is often to be
the whole of the activity of the individual and the
person himself. The question of activity.... can be
be regarded as one thing in the general--rather as that
of life, or of death, or of subjective consciousness, or
that, individual activity is something that is
to be present at all," (p. 11, p. 100)

This individual activity is the thing that we
want that represents the individual under nature
evolution and under the necessary influence to that the
work, "It is, of course, this one is often to be

through matter which it finds here, consciousness is tempering itself like steel and preparing itself for a more efficient action, an intenser life." (13) If there is anything prophetic in these words mayhap Bergson is pondering over some life to come, some fact of immortality beyond the life process. The phrase "in its passage through matter which it finds here" seems to suggest a lurking prophesy of some passage to come that will be in a "there". If such is the case, if Bergson is preparing some more coherent metaphysical synthesis than that which he has so far offered, then we may well ponder over how he in turn will reconcile some passage of consciousness out "there" with the life process "which it finds here". But such is futile guess work for we have as yet no grounds for assumption. Perhaps Bergson will find in consciousness advancing through higher and richer levels of personality a parallel for that nisus toward deity which is the basis for the optimism of Alexander.

The conclusion to the whole matter seems to be that where Alexander and perhaps Bergson ask or will have to ask what in the Time process deserves the name of God, Morgan goes beyond the process itself and acknowledges a real God as the activating principle of the Universe. Morgan must^{to} be consistent, deny the ultimate effectiveness of

(13) cf. concluding paragraph of the review of Mind-Energy, by A. G. A. Balz, Journal of Philosophy, XVIII, No. 23, 1921, for the source of this suggestion.

Time, that effectiveness which for Bergson in his la durée, his life process, and for Alexander in his Space-Time matrix and emerging nissus towards deity as a quality, is fundamental.

But after all, it will be asked, is not the force of la durée and of Space-Time a subtle avoidance of an agnostic limitation which Morgan frankly admits and leaps over by the method of acknowledgement? There is a principle of causation or causality somewhere, of some kind, be it la durée, Space-Time effectiveness, creative advance or Independent Divine Activity. In which case Morgan has openly accepted it on faith where the others have attempted to disguise it as being in the field of actual experience and therefore subject to naturalistic explanation.

Yet, such a demand for some force, some causal principle of activity is perhaps after all but an anthropomorphism. Perhaps emergent evolution is just what it is, a continuous becoming, because it is what it is, a creative advance of a Time process which is ultimately real and effective and can have no further explanation. Such is the point of view of Alexander, Whitehead and possibly Bergson. Morgan, on the other hand, not satisfied with what seems to him to be an agnostic outcome as well as a Pantheistic one,

demands an Independent reality behind or rather before the whole process and meets that demand with his Divine Activity, his God, Who, subject to neither proof nor disproof, must be acknowledged on faith. Morgan is thus supported by that faith which seems to be natural to humans but the weight of logic, reason, and scientific knowledge seems to be against him. Just what the true answer is remains to be seen.

The happy fact remains, however, that in the outcome of both Morgan and Alexander there is an inspiring note of optimism which, though arrived at by different paths, is nevertheless based on a rational faith.

If emergence be true, prediction of later emergence is impossible. Hence you cannot spell out of the previous history of the Universe any guarantee that later unpredictable emergence will be still higher in quality. There might be devolution rather than creative upward evolution. But Alexander is optimistic in his view of the future. His optimism is not a matter of demonstration but rather one of rational faith based on a study of history to date. His is a faith that the nisus toward fuller and richer qualities which has in the past made for higher levels of "emergents" will in the future pro-

ceed as in the past ever upward in a creative advance. It is a rational faith in the process itself.

Morgan, on the other hand, is just as optimistic but finds his ground for such optimism in a faith in an "acknowledged", all powerful, omnipresent, infinite Deity..... in God, the Principle of Activity which is the extrinsic go of the whole process of emergence. This God will in the future, as in the past, guide the creative advance of the becoming process toward higher levels of being and reality.

***** * *****

Meantime the concept of emergence, embodying a new élan vital that is permeated with an acceptance of the reality of Time, gathering up the various efforts of man's thought, is sweeping onward like that ultimate becoming which is of its essence toward some new and deeper knowledge of being and becoming, some more adequate and synthetic metaphysical "weltanschauung."

John Williams Avirett, II.

University of Virginia,

JUNE, 1924.

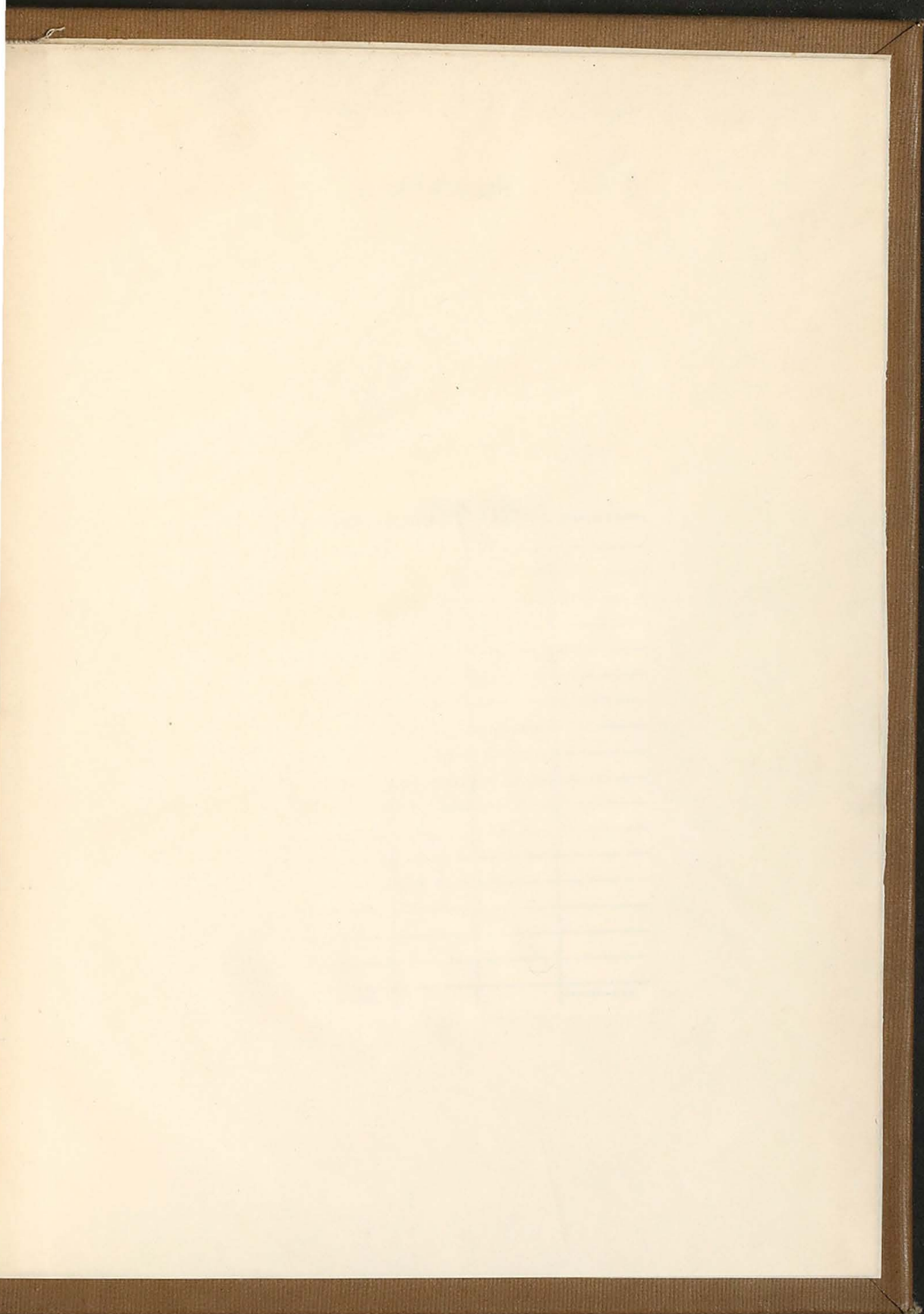
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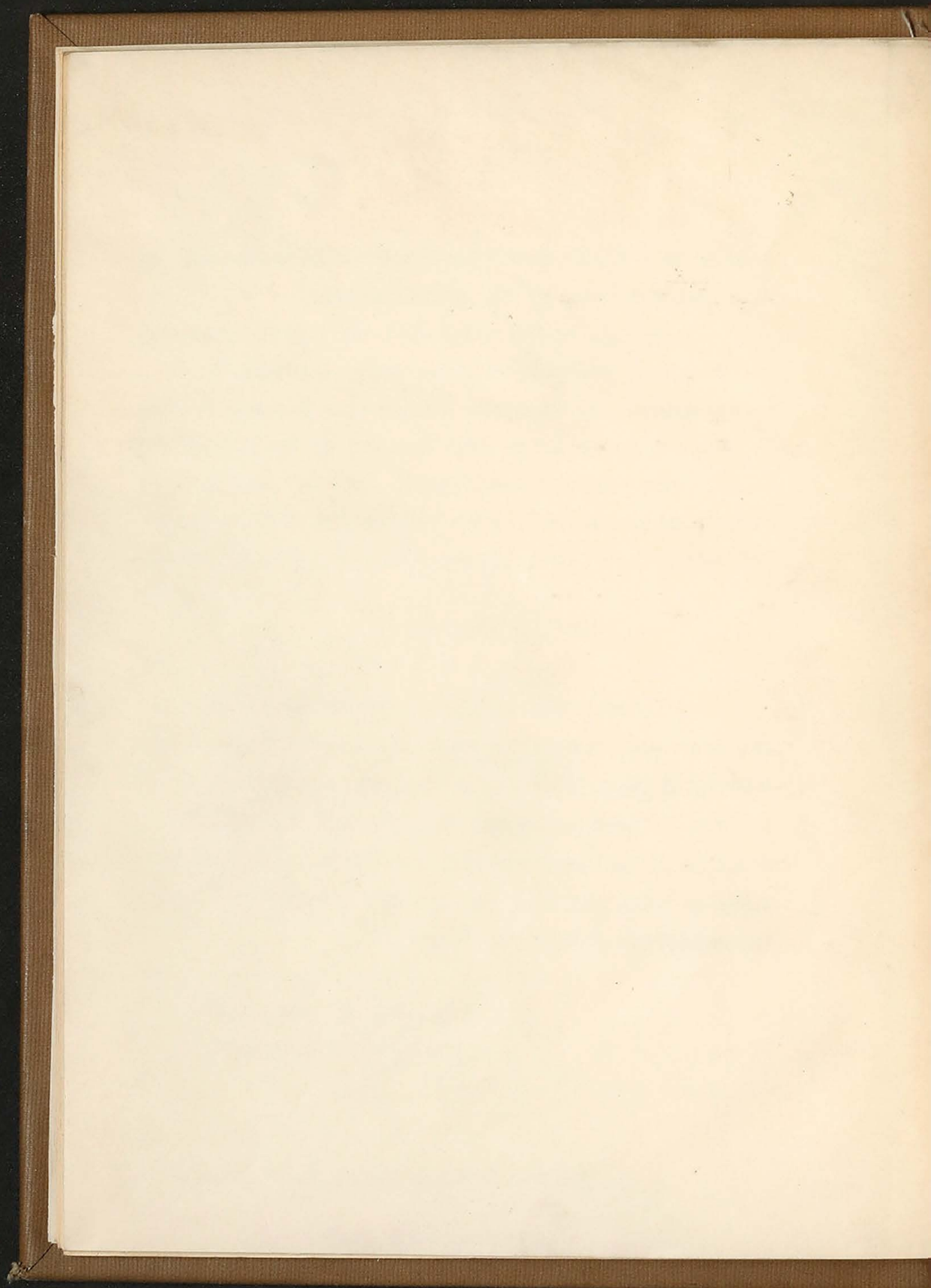
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