

## BIOLOGICAL EXPANSION AND PSYCHOLOGY

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In this age of broadly expanded knowledge, with its necessary accompaniment of individual specialization, it is probably unwise for a phycologist to fancy himself a psychologist. The offerings of some biologists who are older and wiser than I, have already made me uncomfortable enough. Nevertheless, if we retain any pretense of being students of life, communication between those who have been trained in the various subject matters of biology should be attempted. So, I shall here assume the role of fish-on-a-steeple, and attempt to convey my ideas of the implications for psychology of such a broad biological concept as biological expansion.

Although I doubt that such a broad concept can be very helpful in the spade-work of psychological therapy, the chief response to the idea has come until now from clinical psychologists. This has been surprising because as finally first published (9), biological expansion was supported only with examples from "legitimate" biology. And yet, when I first became aware of the concept, which I credit to my father, it was stated in psychological terms, almost completely. At a time when I was groping for such an idea, my father, an unusually wise "freelance student of life" who never published, clarified it for me. He sought such a unifying concept because he was dissatisfied with the existing divergence of the various schools of psychology.

The present interest by psychologists indicates to me a lively concern in finding common theoretical grounds with the broad body of biology, and I cheer the search. It is interesting that their quest comes at a time when many of them are busy hounding behaviorists and their biological methodology back to Pavlov's doghouse. As a son of my father, I have little patience for the factional bickering about who is a proper scientist. There might be many more profitable thoughts along the line recently taken by Berenda (2) in answering the question, "Is clinical psychology a science?"

As a specialist in one field attempting to communicate with another, I felt that my knowledge of psychology should be updated from what I knew—Freud, Watson, Pavlov, and Ellis. For a start, MacLeod (18) had already startled me somewhat, and Fromm (11) charmed me a little. On the advice of local philosophy and psychology

departments,<sup>1</sup> I delved deeper into Fromm (10), and read Horney (14, 15), Rogers (23), Allport (1), and the compendium on *The Self*, edited by Moustakas (20). Even so my armor felt a bit drafty, until I reflected that Allport who expounds the dynamism of life so keenly in the terms of psychology, seems to dismiss so bluntly all of the biological activities of man as being merely directed at his survival. Then it seemed worthwhile to raise a banner boldly proclaiming that the psychologists might do well to read a few more articles by biologists, perhaps Muller (22) and Emerson (8).

#### STATEMENT AND DERIVATION OF BIOLOGICAL EXPANSION

The article in which biological expansion was explained (9) appeared earlier this year. Its implications for psychology can best be judged by psychologists who are far more familiar with the scriptures of their field than I am. If you like the concept, you then may find plenty of quotations from your field by people who have almost said the same thing, or at least implied it. Hence, the best service that can be performed here is to repeat the statement of biological expansion as it was given earlier.

I do not know whether biological expansion can be precisely defined. It is a pattern, however, which can be analyzed into a number of elements. First, *size increase*: the activity that results in an increase of size can cause new order with new behavior. This is true of molecule or society. Among the new behavior made possible by size increase are *duplication* and *variation*. Duplication, generally with size increase, can result in *reproduction* or *compounding* of structure. The distinction between the two terms is a tenuous one, depending partly on the level of organization with which we are concerned. On the cellular level, reproduction of cells may be synonymous with reproduction of an individual if we are satisfied that some arbitrary degree of independence follows, or it may be considered compounding. We would usually say "growth" if the duplicating cells are closely associated as in a tissue.

Duplication not only results in compounding but increases chances of variation, hence *complexity*. Muller (21) has clearly described this phase of biological expansion at the chromosome level . . . Organizational complexity (structure) is distinguishable from behavioral complexity only in terms of time, and what Muller said of one organismic level is applicable at any level.

Biological expansion at any level of organization or on a time scale can be seen from the aspects of increase in size, numbers (elements or individuals), and complexity (9, pp. 52-53).

The emergent evolution of the idea was traced from Malthus (19), Darwin (7), Kropotkin (16), Henderson (13), Willis (26, 27), Child (5, 6), Cain (4), Von Bertalanffy (25), Butler (3), Gerard (12) and others. I omitted W. C. Allee, A. E. Emerson, and Alfred Adler. Meanwhile Rogers (23) appears to have attained a similar philosophy, probably from quite a different set of references.

<sup>1</sup>At the time this was written, the author was at the University of Oklahoma.

## EXPANSION VERSUS SURVIVAL

My only proprietary claim on biological expansion is having stated brashly that it is an all-inclusive frame of reference for the study of life, including man. For me, it relates numerous phenomena; respiration, digestion, assimilation, excretion, irritability, and growth, all fit into its pattern.

That which we recognize as living expands. It increases in size, numbers, and complexity. If it does not do so, it ceases to exist. As long as the expansion activity is sufficient to maintain a pattern, we say that the unit has survived. Since persisting patterns are striking, survival has come to be considered the most characteristic behavior of life. However, the results of a philosophical outlook based on the survival characterization may be inadequate and misleading. I shall not belabor the point here except to opine that attitudes based on a goal of survival, as the accepted natural behavior, tend to support static positions. Actually, what we see frequently in life is expansion far beyond the level of survival. In the words of Thompson (24), "We see life persistent and intrusive—spreading everywhere, insinuating itself, resisting everything, defying everything, surviving everything . . ." Life does not quite survive everything, of course. Somewhere in time or space its external or internal environment stops it. Yet, in one way or another, it keeps reaching out toward the limitless. The results of the reaching may be conflict, cooperation, incorporation in a larger unit, death, co-existence, or diversion to other channels of expansion.

## EXPANSION IN MAN

The channels of man's expansion are infinitely complex. We expand in directions unknown to other organisms, into arts, science, literature, philosophy, religion, and we have had difficulty finding ourselves in the maze. What indeed do introvert and extrovert have in common, misers and philanthropists, daredevils and daydreamers? The satisfaction of expansion comes to the glad-hander when he can accumulate words of approval, or people to manipulate, or certificates of achievement, but it also comes to the daydreamer who is busy accumulating images. The miser must see the money roll in, or stay in, and it is a rare businessman who limits his earnings at the survival level. The philanthropist, in giving his money away, expands himself in terms of buildings built or lives affected. The "flight of fancy" of the daydreamer is an apt, if figurative, counterpart of the daredevil's flight in space.

The missionary zeal, characteristic of some major religious institutions, is different in direction only from the ambitions of the major industrialists, merchants and world conquerors. The underlying behavior is the same, though justified on various grounds—the elemental urge for expansion. There is imperialism of culture as well as territory, and it is quite active.

The urge for expansion is frequently stronger than the “will to live” or to enjoy commonly accepted comforts of life. Man’s adventure with the automobile is a good illustration. Millions have mortgaged homes, gone poorly clothed, and perhaps even hungry to own some sort of running wreck. There is a personal feeling of expansion in space that public transportation cannot give, even though the feeling of speed helps some. The faster we go, the more space we cover—and carelessness and accidents occur more easily. Postulation of a “death urge” is unnecessary, although death may be sought sometimes as a desperate chance at escaping the barriers to expansion.

The answer given by a famous alpinist to the question of “Why do you wish to climb the mountain?” was, “Because it is there.” I am told that those who go for the difficult peaks tend to be non-robust, bookish sorts of people. They must go to the mountain tops, and others must go to the depths of the ocean as divers because the lure of the “deep,” and the “high” and the “distant” arises from a feeling far stronger than the desire merely to exist.

Less spectacular, though frequently risky, is intellectual expansion. Freeing himself from the stultification of conformity, the individualistic artist may live in poverty and deprivation so long as he can give expression to his talents. The same is often true of the scientist, the inventor, of all creative minds. Their urge is to bring out what is in them, to advance in self-expression. It is frequently a rewarding means of expansion for them, since the realms of knowledge are limitless. For the novelist, the poet, and the philosopher too, expansion in the free play and ordering of imagination is a mental happy hunting ground.

Any sincere teacher expands by imparting his knowledge to others. He is sometimes conscious of his role in time, a link between past and future.

Man has expanded tremendously in time as well as space. He looked through telescopes and now plans to go from the earth in space ships. He has gained some perspective of the continuity of personal experience and its role in personality, and he has gained a

perspective of history that enables him to see himself as a product of four or five billion years of evolution. He occasionally attempts resources planning for the future.

#### EXPANSION UNLIMITED

Many have refused to accept the end of conscious life, but have projected and expanded into a "world beyond," a soul that lives forever and so on, so that life can seem infinite and unbounded. The more mundane are equally comforted by the immortal changes of matter and energy in nature. As Lindsey said at the grave of Luther Burbank,

And so we meet him here today, not in death, but in the only immortal life we positively know—his good deeds, his kindly simple, sinless life of constructive work and loving service to the whole wide world. These things cannot die . . . the work he has done shall be as nothing to its continuation in the only immortality this brave, unselfish man ever sought . . . and now he passes with the Everlasting Change . . . Beyond the change that we call death, but which to him was ever a part of life, since "life" and "change" were to him identical, he neither asked nor sought a place by the stupidly gorgeous gates of pearl (17).

The belief in biological immortality (the ever-expanding germ plasm) is expressed, too, as the parents' pride in their new-born baby.

In symbol-using man, organic expansion has become translated well into a four-dimensional expansion into time-space. Through symbols, a synthesis is achieved between past experience and future probability, between the near and the distant too. It is this four-dimensional expansion which has been extremely difficult for man to organize and understand, especially without broad concepts in which to place it.

Hence the psychologists have my awe and sympathy. But I believe that they can translate the general idea of biological expansion into specific items that will have useful implications in their approach to life.

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