

THE EMBRYONIC ORIGIN OF VEGETATIVE ARMOURING

PREFACE

This series of essays is the elaboration of a general theory of embryonic armouring. It lays groundwork for “An Ontogenetic Theory of the Embryonic Origin of Psychosis”, which is Part One of my manuscript, *The Energy Flow in Psychosis*.¹

INTRODUCTION

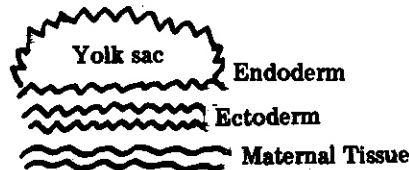
A theory of the embryonic origin of vegetative armouring must describe the labile capacity of the embryonic organism to modify its own development in order to minimize the effect of a stressful maternal surround. Such a theory must describe how this very early distortion of normal function leads to the evocation in the forming body of more and more of the same kind of distortion. We need to explore how the embryo proceeds to establish itself as a more or less closed entropic system. Finally, those mechanisms must come to light which discharge any metabolic flow that could upset the energetic equilibrium established by the embryonic organism to protect and maintain itself.

The actual three dimensional reality of organic life is never the same as the ideal potential. In the idealized image, a conceptus lays fused with the maternal surround, forming perfectly, growing larger, until, on its own it moves, or ‘quicksens’, near the end of the fourth month.² A quiet, supposedly contented womb, brings forth a benign baby. In reality it is a fortuitous circumstance when a dominantly calm womb nurtures an embryo into full formed being. Too often the embryo confronts a stressed womb. When this is the case, the embryo is endowed by nature’s design with the capacity to protect itself. The embryo can shield its essence, and be shielded by its essence, preserving the potential for wholeness later in life when the adult organism can establish for itself more nurturing conditions.³

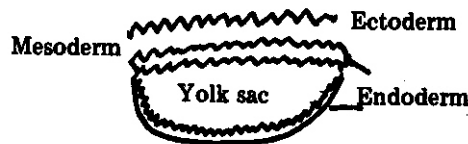
I am describing a sequence of events in embryonic development, taking strength from the fact that embryological investigation is perforated with “beliefs”, “doubts”, contradictory theories, and confessions of ignorance. This is so because the observation of embryonic origins by the intellect and the tools of the intellect can only disturb that which is being observed. No surprise then, that the earliest users of the primitive lens, such as Marcello Malpighi in the seventeenth century, and Caspar Friedrich Wolff in the eighteenth century, when describing their observations of mammalian embryos in terms of their own *sense reactions*, in certain basics have never been improved upon.⁴

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From the beginning of the second week after conception, coinciding with the implantation process, a layer of endodermal cells establishes organic roots and a vegetative core more or less distinct from the maternal organism. The endoderm forms first a primitive and then a larger secondary yolk sac, extending away from the mass of maternal tissue towards the uterine surface and uterine cavity. The yolk sac during the first few weeks of life is a source of nutrient for the pre-embryonic as yet unformed foetus, serving also as the site of formation of the first primitive blood cells and primitive sex cells.⁵



Beside the endoderm, facing the maternal tissue, ectodermal cells proliferate. From the beginning ectoderm serves as an intermediary with the surround... The moment implantation commences, ectodermal cells are in direct touch with maternal tissue. "The whole question turns upon how direct is this touch", comments Joseph Needham, the father of twentieth century chemical embryology. "The general scheme of it can be grasped at once by remembering that, in man, the chorionic villi dip down like fingers into lakes of the maternal blood, which washes up immediately in a kind of sinusoid system such as the spleen. Between the two bloods, therefore, there exist only two membranes, the foetal epithelium and the foetal endothelium (also an epithelium - RWN) lining the embryonic blood vessels".⁶ Ectodermal cells are also forming the amniotic cavity which sets between the maternal tissue and the forming conceptus. The ectodermal cells serve as the amniotic cavity floor.



By the beginning of the third week a third layer of cells, the mesoderm, appears between endoderm and ectoderm. It is the presence of the mesodermal cells of the pre-embryonic conceptus and the morphologic and metabolic revolution which mesoderm signals, known as gastrulation, constitutes the human organism's three dimensionality, and by extension, the beginning of its true armouring capacity. This is the moment that the three cell layers begin interacting as germinating layers. Before this moment, before the formation of what is now a 'germinal disc' consisting of the three germ layers, the organism is likely to abort itself if deluged by stress. But by late in the third week the organism can turn in upon its own three-dimensional resources, distorting itself rather than perishing.

ENKEPHALIN PHENOMENA

The onset of gastrulation during the third week of life is a *critical point* in development. “Critical points occur during embryonic development, moments at which a given amount and intensity of interference by external agents will more easily put an end to the process or make it diverge from its normal course, than at other times”.⁷

A stressed womb, for whatever historical and characterological reasons, is an adrenaline dominant womb. It does not matter whether we explore a direct bio-chemical transmission of adrenaline from maternal organism via diffusion to the embryonic organism; whether we attribute the transmission of stress by the maternal organism to a disharmonious resonance of non-linear microwaves at a quantum mechanic biophysical level; or whether we attribute the embryonic stress to an interaction of the bio-chemical and the bio-physical, in which the embryo’s epithelial barriers break-down incoming maternal catecholamines (adrenaline and nor-adrenaline) with the epithelial product, catecholamine-transferase, to structural and hormonal protein, thus creating a metabolic over-excitation. The fact remains that the carrying organism can produce an over-excitation in the conceptus. Chronic over-excitation, if not discharged or somehow transformed, produces contraction in living matter. Prolonged contraction, if not counteracted, leads to extinction.⁸ The sequence of modifications to normal development that the self-sustaining embryonic organism undergoes to maintain the flow of life - despite the continuing over-excitation of an adrenaline dominant womb - can be characterized under the general rubric of an *enkephalin phenomenon*.

Enkephalin literally means ‘to move towards or put into the head’. Kephalin as a term used in the twentieth century, is a compound present in the mammalian yolk sac concerned with foetal nutrition, a lipid associated with lecithin. Little is known of its function. I use the term enkephalin in its literal sense to describe those organismic phenomena which tend to inhibit the development of sensation in the human. Such inhibition can be understood at two levels (at least). Those events which establish a head dominant organic energy economy. And the mechanisms of displacement of metabolic energy to the head.⁹

While the origin of the earliest primitive erythrocytes (red blood corpuscles) is unknown, they are known to proliferate in the vicinity of the endoderm of the yolk sac by the beginning of the third week. They migrate and by the 20th day an actual primitive cardiovascular system functions, as the first organ system of the organism.¹⁰ By the end of the third week the pre-embryonic organism, in its three-dimensional being, establishes the capacity for a background life maintaining response to incoming stress.

The normal energetic motion of erythrocytes is random and chaotic, a condition known to bio-physics as Brownian motion. Within normal energetic levels, the disc-like erythrocytes have a tendency, when approaching each other, to stack up one upon another, somewhat like coins in a roll. This is called a rouleaux formation. The ‘sheer’ of blood flow and other repelling forces between cell membranes, naturally limit rouleaux formation, maintaining Brownian motion. However, above a minimum energetic excitation in the biological system, a coherent energetic force or vibration between erythrocyte membranes occurs which upsets Brownian motion and spontaneously initiates a quantum mechanic phenomenon in which the event is no longer proportional to the cause. In the language of medical bio-physics, “the supply of energy will be concentrated into the mode of highest wave number and constitute a giant vibration” throughout the macromolecular field of the erythrocyte cell membrane.¹¹ An attraction between erythrocytes above the normal rouleaux formation rate will appear, based upon the coherence of vibration of the energy field of the polarized membranes. When the excitation disappears, the vibrational mode returns to normal and Brownian motion returns. If the excitation is sustained, however, the energetic forces of cell metabolism itself may enter into coherence with the mode of highest wave number.¹²

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After cells have been attracted to one another by these long range coherent forces in the living biological system, thin threads, or ‘contractils’, generate spontaneously, maintaining adherence between membranes; these fibrils disappear when erythrocytes are pulled apart experimentally. This suggests that the contraction was “active”, rather than “viscoelastic”, depending upon an internally derived vegetative source of energy from the cells.¹³ The distinction is important. This is an example of the vegetative process, when provoked into an excitation, turning inwards upon its own resources to maintain the flow of life at its own level of tolerance.

The organism, in other words, seems to maintain the potential for what the medical bio-physicist, Stanley Rowlands, terms “a second nervous system”. The kinds of phenomena of coherent excitation he identifies in erythrocytes may exist in other cells, in the neuroglial cells of neurons, for example.¹⁴ Based upon these recent discoveries of coherence in biological systems in medical bio-physics, a coherent-theory of the nature of embryonic vegetative armouring at a cellular level can finally be drawn. The organism can establish from within a mechanism for transmission of vegetative energy from membrane to membrane, by passing the core of the cells and therefore permitting a numbing of sensation, even while the life-process continues. The implications of this occurring throughout the germinal disc before the body has begun to even form, are enormous.

To be continued

SUGGESTED READING

Howard B. Adelman *Marcello Malpighi and the Evolution of Embryology*, (2475 folio size pages in five volumes), Ithaca, New York, 1966. This is the classic history of modern embryology.

David Boadella *The Charge of Consciousness*, Abbotsbury, England, 1979. “Between Coma and Convulsion”, *Energy and Character*; Vol. 6, No. 3 – Vol. 7, No. 3, September 1975 to September 1976.

Louis Bolk “La Récapitulation Ontogénique Comme Phénomène Hormonique”, *Archives D’Anatomie*, Vol. 5, pp.85-97, 1926.

Gerda and Mona-Lisa Boyesen “Psychoperistalsis” *Energy and Character*, Vol. 5 January 1974. Vol. 7 May 1976. This series of essays appeared irregularly in seven instalments.

W.J. Hamilton and H.W. Mossman, *Human Embryology, Prenatal Development of Form and Function*, London 1978.

Caron Kent *The Puzzled Body*, London 1971.

D.H. Lawrence *Mornings in Mexico*, New York 1981. (p. 12ff).

Joseph Needham *Chemical Embryology*, (2021 pages in three volumes), Cambridge, England 1931. This is the classic in chemical embryology.

Jane Oppenheimer “The Non-specificity of the Germ Layers”, *The Quarterly Review of Biology*, Vol. 15, No. 1, pp. 1-27, March 1940.

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Ben Pansky *Review of Medical Embryology*, New York 1982.

Shirley Roe Matter, *Life and Generation*, 18th Century Embryology and the Haller-Wolff Debate, Cambridge, England 1981.

Stanley Rowlands and L.S. Sewchand, "A quantum Mechanical Interaction of Human Erythrocytes", *Canadian Journal of Physiology and Pharmacology*, Vol. 60, 52-59, 1982.

Stanley Rowlands "Some Physics Aspects for 21st Century Biologists", *Journal of Biological Physics*, Vol. 11, pp. 117-122, 1983.

Stanley Rowlands, C.P. Einsenberg and L.S. Sewchand, "Contractils: Quantum Mechanical Fibrils", *Journal of Biological Physics*, Vol. 11, pp. 1-4, 1983.

Stanley Rowlands "Coherent Excitations in Blood", *Coherent Excitations in Biological Systems*, Ed.H. Fröhlich and F. Kremer, Berlin, 1983.

FOOTNOTES

¹ 'psychosis', *Oxford Universal Dictionary on Historical Principles*, (1955). henceforth, *O.D.*, "animation, principle of life".

² 'quicken', *O.D.*, "to give or restore life to; to animate (as the soul the body)". This term is currently used in embryologic texts.

³ The 'epigenetic' view that from conception onwards the embryonic organism is generating spontaneously and is self-directing has a long and rich tradition enduring to the present. See Adelman, Roe, Lawrence, Bolk, Needham, Oppenheimer, Hamilton, and Mossman at the end of this essay, for suggested reading.

⁴ See Adelman's translations of Malpighi and Wolff.

⁵ See Pansky and Hamilton and Mossman for their sequence of illustrations.

⁶ Needham, p.1490.

⁷ Needham, p.1658.

⁸ See Boadella and Boyesen for their exploration of the nature of organic contraction in an adult organism.

⁹ Amongst psychologists, Caron Kent is the first man I am aware of to have speculated about the "fixation" of what he called "embryo developmental forces", though he did not arrive at a coherent theory.

¹⁰ Hamilton and Mossman, p.167.

¹¹ Rowlands, "A Quantum Mechanical Interaction of Human Erythrocytes", p.53.

¹² Rowlands, "Ibid."

¹³ Rowlands, "Coherent excitations in Blood", p.152.

¹⁴ Op. Cit. p.157-8.

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