

Dynamic Symmetry and the Soul: C. G. Jung's Analytical Psychology as a Laboratory for Edge Theory

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*Author's note: Dynamic symmetry theory first took shape for me during the summer of 1990, when I was living alone in a remote farmhouse in Normandy, reading ferociously. Somewhere amid a pile of books I happened on a line in *Man and His Symbols* in which Jung remarks that human psychology "basically depends on balanced opposites" (1964, p. 59). It is an apparently modest observation, but it struck me with disproportionate force. If something as abstract as the human mind is structured by polar opposition, there must be something quite general at work, something not confined to the clinic or the humanities.*

Dynamic symmetry theory (DST) and Jung's analytical psychology, though born in different intellectual contexts, converge on a core intuition: living systems – bodies, psyches, institutions – endure and flourish by inhabiting a moving middle ground between too much fixity and too much flux. DST renders this as an order–variability balance with associated indicess and couplings; Jung renders it as the interplay of ego and unconscious, archetype and complex, symbol and symptom. DST grew from conversations across physics, biology, medicine and institutional design about how complex systems hover near an "edge of chaos" where they remain sufficiently structured to coordinate action yet sufficiently variable to adapt. Jung, working half a century earlier, described the psyche in very different language, but again and again as a system that breaks down when one pole of a fundamental opposition defeats the other. In both cases, pathology appears when the system drifts too far towards either rigidity or incoherence.

As we have seen in earlier talks and in recent work on DST, this principle appears to apply across all fields and at all scales, from quarks to the cosmos. If DST is, as I believe, a candidate for an "organising idea" across domains, then testing it against Jung's theories is doubly useful. A shallow mapping would mark a boundary to the theory's reach. A deeper one would show that the same structural logic holds even where the primary phenomena are meanings, images and affects rather than particles, flows or market prices. And that is what I would like to do in this brief paper: explore what dynamic symmetry means when the system in question is a human soul.

I will proceed in five movements. First, I shall sketch dynamic symmetry theory in its own terms, drawing on the introductory material many of you will already have seen. Secondly, I shall turn to Jung and show how the psyche, for him, is explicitly governed by a principle of "balanced opposites". Thirdly, I shall examine particular structures in analytical psychology – archetypes, individuation, the transcendent function, complexes and dreams – through the structural questions DST encourages us to ask about order, variability and coupling. Fourthly, I shall comment on pathology and collective phenomena as symmetry failures. Finally, I shall say a brief word about what is gained and what is at risk when we bring these two frameworks into dialogue.

Dynamic symmetry theory, in its present form, starts from a straightforward observation: many systems we care about work best when they are neither locked into fixed routines nor subject to completely random change. There is a band of behaviour in which there is enough order to coordinate action and enough disorder to adapt. Rather than treat that as a loose metaphor, DST asks how order and variability can be defined and related in concrete domains. In a traffic system, order shows itself as smooth flow at predictable speeds; disorder as sudden braking, lane-changing and jams. In a café, order appears as familiar roles and routines, predictable queues and regular supply; disorder as bursts of demand, equipment failures, or an unexpected coach party descending on a

single barista. On a hospital ward, order means clear pathways and stable processes; disorder means unpredictable admissions, staff changes, complications and IT failures accumulating until everything feels “on the brink”. In each case, the system fails not simply when disorder appears, but when order or disorder is allowed to dominate without the other.

In the more technical work, this intuition is formalised in the Dynamic Symmetry Index, or DSI. For a given domain one identifies a measure of structural coherence and a measure of fluctuation, and asks how they relate across time. When coherence and fluctuation are both low, the system is static; not much is happening. When coherence is high and fluctuation low, the system is rigid and brittle, prone to catastrophic failure when conditions change. When fluctuation is high and coherence low, the system is chaotic; signals cannot be stabilised into usable patterns. The index is highest – close to one, in the simplest normalisation – when deviations from both “healthy order” and “healthy disorder” are small, that is, when there is a workable balance between stabilising and exploratory processes. The edge of chaos, in this frame, is not a slogan for “somewhere between extremes” but a diagnosable regime in which structure and variability are coupled in particular ways.

Crucially, DST does not merely point to an optimal point in parameter space. It insists that the coupling between classes of process is central. In any domain one can distinguish processes that maintain coherence (feedback loops, constraints, regularities) from those that introduce novelty (noise, innovation, fluctuation). Dynamic symmetry asks not just where the system currently sits along some order–disorder axis, but how these stabilising and exploratory processes are linked, and how those linkages evolve. It is this interest in coupling that makes DST more than a rebranding of earlier edge-of-chaos work. It also makes it a natural partner for any theory, like Jung’s, in which what matters is less the mere presence of opposites than how they are related.

Jung’s analytical psychology is famously architected around polarities: consciousness and unconsciousness, persona and shadow, anima and animus, thinking and feeling, introversion and extraversion, spirit and instinct. In *Man and His Symbols*, in a chapter aimed explicitly at non-specialists, he remarks that human psychology “basically depends on balanced opposites” (1964, p. 59). The psyche is not a smooth continuum, nor a machine governed by a single principle. It is a self-regulating system in which pushes in one direction are countered, often unconsciously, by pulls in another. One-sidedness is the central danger. When consciousness is too narrowly rationalistic, mythic and emotional material pushes back in dreams, fantasies and symptoms. When feeling and imagination are indulged to the point of neglecting reality, compensatory images of authority and structure arise. The central task of life, for Jung, is not to eliminate tension between opposites but to learn to live within it.

This already sounds remarkably close to the ethos of dynamic symmetry. The analytic process aims neither at freezing the psyche into a single configuration nor at dissolving it into unstructured experience. It aims at a mode of living in which the ego can tolerate, negotiate and integrate the claims of its various “opposite” tendencies without collapsing into inflation or fragmentation. Jung’s language is mythic and symbolic rather than mathematical, but the structural themes are recognisably those of a system maintaining itself in a live band between two failure modes.

If we approach Jung in this way, his key constructs acquire an additional dimension. Archetypes cease to be merely quasi-Platonic forms, and become dynamic symmetries: invariants in the psyche that can be expressed, broken and reconfigured across time. The process of individuation ceases to be a vague journey towards self-fulfilment, and becomes a trajectory through phase space in which stabilising and exploratory tendencies are repeatedly brought into new couplings. The transcendent function of symbols and dreams appears not only as a path of meaning but as a specific way in which the system links opposite tendencies. Complexes are no longer simply clusters of affect and

image, but local attractors that modulate the psyche's overall position with respect to rigidity and chaos.

Take archetypes first. In Jung's usage, archetypes are not fixed images but structuring patterns that can manifest in many guises: myths, religious symbols, personal fantasies, political ideologies. What persists is a pattern of relations and affects rather than a particular story. In symmetry language, an archetype is something that stays recognisable under transformation. The "mother" archetype can appear in the personal mother, the Church, the State, the earth, a corporation, or a cause, but its characteristic dynamics – protection, nourishment, control, engulfment, abandonment – can be traced across very different contents. In DST terms, the archetype is a symmetry of the psyche: a stable configuration that gives coherence to otherwise fluctuating contents. Yet it is not static. It is continually broken and restored as new experiences and interpretations arise. A child's experience of mother, a teenager's rebellion, an adult's relationship with institutions, a mid-life turn towards the "inner mother" or earth-care: each re-expresses and deforms the archetypal pattern.

Dynamic symmetry offers a way to talk about such processes. When an archetypal pattern is held too rigidly – for example, in idealised or demonised views of authority, heroism or victimhood – the psyche enters a low-variability, high-coherence regime. Everything is interpreted through that one template. The result is what Jung calls inflation: the ego is captured by an archetype, and other aspects of the psyche are driven to the margins. When, by contrast, archetypal material floods consciousness without structure – as in some psychotic states – coherence collapses and we see high variability with little stable reference point. In each case the system has drifted away from a viable band. The clinical task is to restore a dynamic symmetry around the archetypal axis: enough stability for identity, enough fluctuation for growth.

Individuation, too, can be described in this language. For Jung it is not a straight line from ignorance to enlightenment, but a series of crises, regressions and integrations in which the ego's relation to unconscious contents is repeatedly reorganised. The person is drawn away from a purely collective identity (persona) towards a more singular configuration shaped by encounters with shadow, anima/animus, the Self and so on. At each stage there is a risk of both collapse and premature closure. DST makes this explicit. The psyche must, on the one hand, loosen its existing structures sufficiently for new contents to be acknowledged and symbolised. On the other, it must preserve enough continuity of self and world for those contents to be borne. If exploratory tendencies (for example in dreams, fantasies, creative work) are not adequately coupled to stabilising tendencies (relationships, work, ritual, ethical commitments), the system is vulnerable to chaotic regimes. If stabilising tendencies become too dominant, exploration is stifled and development stalls. Healthy individuation can therefore be depicted as a path that repeatedly approaches the edges of viable bands in different subsystems of the psyche without leaving them altogether.

Jung's notion of the transcendent function helps us see how this works in practice. The transcendent function is his term for the process by which conscious and unconscious contents are brought into relation so that a new orientation can emerge. It is not a mysterious faculty but a pattern seen in many clinical and creative processes. A one-sided conscious attitude encounters its opposite in dreams or symptoms; the ego dialogues with this material in analysis, active imagination or artistic work; a "third thing" gradually appears that is not a mere compromise but a reconfiguration in which both sides are, in some form, acknowledged. Structurally, this is exactly the kind of coupling that DST singles out. There is a stabilising pole (the existing conscious position), an exploratory pole (the unconscious reaction), and an operator that links them (symbolic work), allowing a new configuration to settle rather than oscillation between the two extremes. Where the transcendent function is blocked – where unconscious material is dismissed as nonsense, or where consciousness loses any capacity to reflect and is swept away – the dynamic symmetry breaks down.

Complexes and projections can likewise be described as symmetry phenomena. A complex, in Jung's usage, is a relatively autonomous cluster of ideas, images and emotions organised around a theme: mother, father, power, failure, and so on. Complexes can act as local attractors, pulling experience into their orbit. They can also destabilise the wider system. A mother complex, for example, may stabilise behaviour in some settings (efficient care for others) whilst driving rigidity or collapse in intimate relationships. DST would encourage us to ask: in which regimes does this complex increase overall DSI, by providing a usefully coherent response to recurrent situations, and in which does it lower DSI, by dragging the person into brittle or chaotic responses? Projection, in turn, is the extension of internal symmetries outward. When we project a complex onto another person, we effectively treat the environment as if it shared the structure of our own psyche. This can be adaptive – a rapid way of orienting ourselves socially – but it can also generate self-reinforcing loops that hold the psyche in rigid regimes. Mass projection, in Jung's discussion of political and religious movements, produces large-scale symmetries which can become collective pathologies.

Dreams and symbols, long before we bring DST anywhere near them, already function in Jung's system as instruments for managing psychic disorder. Dreams loosen the ego's grip, allowing unexpected combinations of content that may point beyond current conscious attitudes. Symbolic activity – whether in therapy, religion or art – gives form to otherwise inchoate affect and image. DST allows us to phrase this as a question about low-cost exploration and controlled fluctuation. Dreaming can be understood, at least in part, as the psyche's way of exploring new configurations without immediate behavioural consequences. A dream that repeats rigidly may indicate that the system is stuck in a high-order, low-variability pattern: the same scenario is replayed without development. A dream that is entirely fragmentary may indicate high variability with little coherence. Dreams that Jung regarded as especially significant often show both structured motifs and surprising turns: they disturb existing symmetries just enough to make new arrangements thinkable.

One can take this further and ask what it would mean to measure, even crudely, something like a DSI for aspects of psychic life. In a traffic system, we can define flows, speeds and fluctuations. In a hospital we can count admissions, waiting times, network latencies, staffing levels. In a psyche the metrics are more elusive. But some proxies suggest themselves. Narrative coherence, diversity of roles and interests, variability of affect, the capacity to entertain more than one point of view without disintegration: all of these can be read informally as indicators of different regimes along the order–variability axis. An overly rigid personality will have very high coherence – stories and self-descriptions that rarely change, emotional tone that remains narrow – and low fluctuation. An extremely labile personality will have high fluctuation but little sustained coherence. Jung himself, though not using this vocabulary, was exquisitely sensitive to these differences. His descriptions of neurosis and psychosis can be re-read as descriptions of different symmetry failures: in neurosis, an excess of order around particular complexes and attitudes; in psychosis, an excess of disorder in which archetypal material can no longer be safely integrated.

DST is explicit that it does not settle questions of value. A configuration with high DSI is not automatically good; it may be robust and adaptive for some while damaging for others. A financial market that sits comfortably near its own edge of chaos may be very good at allocating capital from the point of view of investors, and very bad at protecting ecologies or vulnerable populations. Similarly, Jung never claimed that psychic balance was a moral guarantee. An individual may reach a fairly stable integration of their own shadow and anima without thereby becoming saintly; the result may be a more effective criminal. Both frameworks insist that structure and function are one thing, value another, and that the latter requires ethical and political argument.

This brings me to pathology and to the collective. DST, in its applied work, has already been used to think about hospitals, ecosystems, infrastructures and markets as systems that tend to drift

towards regimes of brittleness or volatility under certain pressures. The DSI is explicitly introduced as a diagnostic that can flag such drifts. Jung's account of collective phenomena – totalitarian movements, religious manias, moral panics – can be interpreted analogously. A society that locks itself into a single ideological pattern has high coherence and low variability; minor perturbations cannot be absorbed, dissent cannot be processed, and eventual breakdown is likely to be catastrophic. A society in which norms and institutions disintegrate faster than new ones can form has high variability and low coherence; individuals cannot plan or trust, and are tempted to retreat into private worlds or violent assertion. A healthy polity, like a healthy psyche, must find ways of maintaining dynamic symmetry between stabilising structures and exploratory energies, and must manage the couplings between them: legal and educational systems, media ecologies, cultural narratives.

Jung warned repeatedly that when collective life is dominated by unconscious factors, symbolic thinking collapses into literalism, and archetypal patterns are acted out rather than reflected upon. DST, for its part, invites us to identify the processes by which fluctuations are harnessed – or fail to be harnessed – at different scales. Bringing these threads together suggests new questions. How do media systems and algorithms alter the coupling between individual psyches and collective symbolic structures? Under what conditions do they amplify local fluctuations into global pathologies? Can one detect early warning signs, in patterns of discourse, that a society is drifting towards a low-DSI regime? What kinds of institutional and cultural practice can, like the analytic *temenos*, provide enough structure for disturbing material to be processed without explosion?

It is important, in all of this, not to claim too much. DST does not turn Jung into a reducible subsystem of complexity science, and Jung does not solve DST's outstanding technical and philosophical problems. What DST brings to the table is a disciplined way of phrasing structural questions about order, variability and coupling, and a record of applying those questions in multiple domains. What Jung brings is a detailed, clinically grounded account of a specific complex system – the human psyche – that is intrinsically meaningful and value-laden. When we say that DST and Jungian psychology are “about” the same kind of thing, we are not saying they can be collapsed into one another. We are saying that there is enough structural kinship for them to constrain one another.

If, after serious work, it turns out that the mapping between DST and Jung's theories works only at the level of loose analogy, that will be an important result. It would suggest that the kind of balancing that appears in physics, biology and institutional design fails to capture something essential about symbolic and subjective life. DST would then either have to restrict its ambitions or deepen its own account of meaning. If, on the other hand, the correspondences continue to multiply in non-trivial ways – if, for example, DST-inspired diagnostics prove useful in clinical research, or if Jung's account of archetypal dynamics helps refine DST's thinking about multi-scale symmetry regimes – then Jung's work may indeed become one of the most fertile laboratories for exploring what dynamic symmetry means when the system in question is a human soul.

It is not accidental that Jung himself reached for physical and biological analogies in his descriptions of psychic process, nor that he insisted on “balanced opposites” as a basic principle rather than a poetic flourish. It is likewise no accident that a theory born in the study of traffic waves, hospital wards and quantum fields should find itself circling back to a remote farmhouse in Normandy with *Man and His Symbols* on the table and a beach full of conflicting symmetries near by. The hope behind the ongoing research undertaken by the Schweitzer Institute and published here in OXQ is that by testing dynamic symmetry theory against some of the most subtle accounts of inner life we possess, we will learn where it truly helps, where it fails, and how both science and psychology might be sharpened by the encounter.

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References and Further Reading

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