Contributions from the Paradigm of Complexity to Relational Aesthetics Thinking

Jordi CLARAMONTE ARRUFAT

Faculty of Philosophy. Universidad Nacional de Educación a Distancia UNED (Madrid)
ORCID: 0000-0001-6860-0019

jclaramonte@fsof.uned.es

Abstract

Since its first and precarious forays in the 1990s, "relational aesthetics" has needed to possess intellectual tools that allow us to go beyond mere acritical celebration. With this in mind, this article seeks to set out and discuss the possible interest of some of the categories from complex thinking and self-organisation, relating them to the challenges to be addressed by research in the sphere of contemporary relational aesthetics.

Thus, we will consider three specific contributions of this paradigm: the dynamics of reaction and diffusion, the systemic tendency towards homeostasis and homeorhesis and, finally, the articulation of the processes of short-, medium- and long-range repulsion, attraction and repulsion.

Jordi CLARAMONTE ARRUFAT

Contributions from the Paradigm of Complexity to Relational Aesthetics Thinking

Introduction

In the mid-1990s, the "relational aesthetics" label became popular in reference to attempts to reconnect artists' formal experiments and the daily lives of their spectators. They could rightly be tired of their role in the spectacular, self-referential and cynical dynamics that had characterised much of the hegemonic art of the 1980s and the early 1990s.

Art, as Nicolas Bourriaud would say, could now become a *state of encounter* that would allow us to bring to the fore research on *ways of operating*[1] deployed by artists and how they could affect the organisation of our sensibility and the social and political processes in which we were involved.

Relational aesthetics, always in Bourriaud's view, did not seek to "not represent a theory of art [...] but a theory of form. What do we mean by form? A coherent unit, a structure (independent entity of inner dependencies) which shows the typical features of a world" (Bourriaud, 2001).

With this, we took aesthetics thinking to a potentially fertile field in which languages and artistic proposals could be understood and distributed like so many other *forms* of *self-organisation* that could be replicated both in the intimate and the social and political.

The idea was good: reclaiming the spaces and times of encounter and dialogue, making them the very object of our poetics, could help us to reverse some of the processes following which art had been increasingly moving further from our lives and our needs for contact and community. However, something went wrong. After the novelty, relational practices tended to be stereotyped and repeated as if it were a mere sign of identity or brand image. But, above all, and this was already present in Bourriaud's early essays, relational art soon withdrew to the institutional precincts of museums and art galleries, whose whitened and padded walls turned material and formal

---

1. To use Michel de Certeau's term, which, although based on research conducted in the 1960s, did not enjoy excessive popularity in Spain until the late 1990s, when he was translated and edited in a collection of essays entitled *Modos de hacer: arte crítico, esfera pública y acción directa*.

self-organisation proposals into increasingly more sterile, repetitive and tiring gestures.

With that in mind, it will be important to rethink the specific power of relational aesthetics while recovering other previous poetics to *read them* based on their relevance as a relational tool. We are extremely fortunate that in parallel with relational art a whole relational epistemology has been developed. Since the end of the 1990s both in physics and in biology or artificial intelligence there has been a tendency to work with relational approaches thanks to which we can begin to appreciate the importance of notions such as *emergence* or those related to *self-organisation* processes.

The conceptual and terminological borrowings between the different disciplines will be of the greatest relevance and will tend to happen in one direction and another.

Thus, just as we will now explore some conceptual propositions from physics or morphogenesis, we will find that important biologists such as Maturana and Varela have had no problem appropriating categories from aesthetics thinking such as *auto-poiesis*[2] and making them fundamental.

But above and beyond these terminological borrowings, it is important to understand the central importance of understanding our objects of study as *self-organised complex systems*; that is, systems that incorporate the requirement — common in classical aesthetics — that they exhibit a *dual consistency* that makes them *analytically simple and synthetically complex* (Agazzi, 2002: 7); that is, they are systems — whether biotopes or works of art — whose decomposition can be carried out exhaustively without any mystery, but whose overall dynamics will show *emergences*, i.e., behaviours that cannot be separately attributed to any of their components.

In what follows, we will specifically advocate the importance of thinking about relational aesthetics in connection with the developments that have emerged and been consolidated in recent years as part of an ontological and epistemological approach that has become known as "complex thinking".

Although this paradigm only seems to have become widespread in the last decade, the first specific and explicitly self-organising research was conducted by Liesegang in the late nineteenth century, by Lotka in 1910, Bray in 1921, Kolmogorov in 1937, and Belousov in 1950. All of their publications were repeatedly rejected, leading to researchers such as Lotka and Belousov having to abandon scientific research, accused by their peers of showing "impossible" results. All of them predicted that self-organisation could *emerge* in *complex* systems of both an inorganic and organic nature as well as in artistic and cultural practices.

We will now briefly outline some of the patterns that can help us understand some of the most basic forms of self-organisation.

---

2. Which biologists Humberto Maturana and Francisco Varela borrowed from the work of their colleague, the philosopher José María Bulnes, on the internal dynamics of Don Quixote. Bulnes was a prominent fighter for the rights of indigenous peoples throughout his life, for a full understanding of which self-organisation is essential.

The Articulation between the Processes of Reaction and Diffusion

Bringing a postulate of aesthetics to biology, we could say that *forms are always diagrams of forces* (Thompson, 1959: 16); that is, the forms that ecosystems or poetics adopt cannot be conceived as if they had appeared already finished independently of their environment, but must be understood — relationally — as dynamic configurations revealing a specific process that shows how, faced with a given landscape or conflict, an adaptive or reactive response emerges that leads to a new conflict, to a new landscape in which the aforementioned response will become hegemonic or will gradually dissolve until it disappears.

This process of producing forms was analysed in 1952 by Alan Turing, who proposed a dynamic based on the alternation and articulation between *reaction* and *diffusion*.

For Turing, *reaction* refers to the centripetal process in which some substances turn into others, while *diffusion* refers to the *centrifugal* process by which these substances, when transformed, expand through space.

It should be said that these processes, although opposite to each other, cannot be considered as isolated and self-sufficient dynamics, but are rather linked or overlapped to give rise to self-organisation modalities, such as self-catalytic processes.

It will now be a question of assessing the interest that the dynamic equilibrium between reaction and diffusion may hold for us as researchers of stage and performative practices.

Thus it can be rewarding to undertake a rereading of classical texts such as Aristotle's *Poetics* through the alternation of centripetal and centrifugal processes such as reaction and diffusion. The Stagirite defined drama as a *mimesis praxeos*, the imitation of a behaviour, within a *mythos*, a story or a context generally known to the spectators. Thus, in Aristotle, *mimesis praxeos*, the represented or imitated behaviour, had the systemic characteristics of *diffusion*, of the centrifugal *novelty* that opened us up to what we did not know and that we could only understand if we were able to relate it to what we already knew. And what we already knew was precisely the *mythos*, the known and shared story, which had to be familiar to the spectators and from which the playwright took his characters. The *mythos* then played on the centripetal side of the *reaction*, providing us with a familiar basis that we could recognise. If we move from Aristotle to the relational performative practices that concern us, we find exactly the same challenge.

If the artistic proposal did produce *diffusion* in Turing's sense, the performance would be trivial since it would not allow us to explore or apprehend anything new... while if it did not generate *reaction*, if the proposal in question was based on a kind of private language, on a *mythos* not shared with the spectators, the drama or the action would be incomprehensible.

This gives rise to two pleasures with which both the Aristotelian spectator and the spectator of relational practices would be familiar: *recognition* and *peripeteia*. And there would also be two displeasures that are perhaps more common in the modern experience of art: *stupefaction* at the poorness

or the lack of vigour of the *peripeteia*[3] or the *diffusion* of a work or the *indignation* at the lack of recognition, the impossibility of engaging with it and producing our own *reaction*.

The self-catalytic processes set out by Turing force us to understand that, as with diffusion and reaction, *mythos* and *mimesis praxeos* produce each other. It may seem obvious to point out this articulation but that has not been the case for most of the history of aesthetics thinking, which has largely been marked by the quarrel between supporters of *reaction* and *diffusion*, lovers of classical drama and fans of the *live arts*. That was, in spite of obvious differences, the core of the ancient and modern quarrel.

The *ancients*, from Aristotle to Eliot, have tended to argue that works of art are fundamentally centripetal devices that produce a *self-contained reaction*.

The *moderns*, from Baudelaire to Malraux, have rather tended to emphasise the centrifugal processes of *diffusion*, generally ignoring the importance of being able to have a limited and relatively stable space of transformations.

Understood from this paradigm, the quarrel of the ancients and the moderns is simply limited to contrasting two partial intelligences that seem unaware that they are essential parts of the same game. What the paradigm of complexity brings us here is the intelligence that allows us to see how both dynamics are as certain as they are incomplete, since without play between the two there is no self-organisation of the modes of relationship that question and organise both artistic languages and our own intellectual and emotional life.

Understanding the power and ubiquity of self-organising processes leads us to assume that coordination and order do not necessarily have to occur based on any instance of global control, such as a queen bee in a swarm or an artist in his or her studio. Both the queen bee in the swarm and the artist in the studio are certainly essential components of their respective systems, but their role — if we consider the swarm or the aesthetic relationship as self-organised systems — is to interact with other equally important components, and it will be from these local interactions that a global pattern will emerge, a mode of relationship that is characteristic and appreciable as such. Works of art will appear rather as provisional instances of the different modes of relationship that emerge from the interaction of lower-level components, including, of course, the artist, but where there must also be the inherited languages, available materials, receivers and the social and historical context in all its variability. This has already been set out in various attempts — such as Bourriaud's — to construct an explicitly relational aesthetics. But now is the time to go further and examine some more features of the epistemology of complexity that seem to make it especially appropriate to be aware of the problems that contemporary aesthetics thinking must face.

---

3. Remember here that the Aristotelian meaning of *peripeteia* does not imply a mere game of variations but entails a much greater agonistic capacity since it supposes "a change by which the action veers round to its opposite…"

From Homeostasis to Homeorhesis in Life and Art

One of the fundamental assertions of relational aesthetics is the postulate of a certain autonomy by the artists to form sets of relationships that structure both their production and the experience of the spectators, turned into replicators of the relational proposal made by the artists. In this, says Bourriaud, one recognises the characteristic modern search for an autonomy of the artistic from which to "change culture, mentalities, individual and social living conditions" (Blanco [et al.], 2001). However, the very term *autonomy* cannot be used without some caution because the appeal to autonomy can conceal two approaches as different as those that complex thinking has defined around the self-assembly processes and the aforementioned self-organisation processes.

We can summarise this distinction by saying that self-assembly processes are characteristic of systems that, while capable of regulating themselves, always do so by orienting to a stable and constant position. The state in which these systems are situated or tend towards can be understood as a kind of *homeostasis*, a concept coined by Claude Bernard in 1865 and that referred to these *"gattopardesque"* self-regulation processes by which "a given system adopts minor changes in order to remain the same."

On the other hand, self-organisation processes help us to understand the processes of change inherent in what Prigogine called "systems far from equilibrium". In these cases, instead of talking about homeostasis, we prefer the term *homeorhesis,* proposed by geneticist Conrad Waddington to refer to the processes of change and self-regulation that do not have a stabilised state to refer to, but rather maintain a certain structural robustness as they continue to evolve. Homeorhesic systems, therefore, do not have a finished state as a point of reference but explore what Waddington called a *chreod*, a kind of epigenetic valley that houses "the domain of parameter space for which a process is structurally stable" (Bourgine; Lesne, 2011: 285).

Taken to the field of relational aesthetics, this allows us to understand how our artistic practices cannot relate to a stable and closed state — a meaning; that is, they cannot be reduced to a single interpretation or a single truth but open up and explore an epigenetic valley: a whole spectrum of possible variations within which the work in question has full force and meaning. Moreover, we find that works of art — as homeorhesic systems — can maintain a high degree of internal order *only* insofar as they are continually exposed to external fluctuations arising from the multitude of meanings and interpretations to which they are subjected. This means that all these fluctuations, such as those caused by the different judgments of taste, not only do not aggravate but are precisely those that keep the work in question alive.

This, as we have said, slits open the scope of possible couplings that a work of art supports and tolerates, but does so, nevertheless, maintaining that scope limited. What Waddington seeks to argue with his *chreods* is that any creature — or any work of art — cannot evolve in *any* direction or reveal *any* meaning; instead, its possibilities always fall within an epigenetic valley that specifies both its possibilities and its need.

The question of the multiple truths that a work of art is able to reveal in its epigenetic valley leads us to consider another feature that self-organised systems and aesthetic devices have in common, especially those that are postulated as specifically relational. Namely, both are likely to be described as *multistable* systems; that is, systems that are capable of occurring in different stable states.

What the paradigm of complexity reveals, and which is certainly characteristic of the work of art, is that this multistability is both diachronic and synchronic. Thus, the work is able to support and fit together different experiences over time or in relation to different audiences, but we can also see how the work appears diachronically and synchronically as a stratified complex, managing to excite us in different ways, relying on different strata that concur in the work. Attaching more or less importance and attention to each of the strata of the work allows us to lean towards different interpretations or states of stability. However, when that multistability is overly inclined towards or even stuck in one of its stable states, it may well be that the poetics in question bifurcates into a new system characterised by a different form of dynamic equilibrium.

Repulsion, Attraction and Repulsion Again in the Different Ranges of the Work of Art

Thus far, based on complexity sciences, we have seen how "relational" artistic practices are marked out as a specific objective as they are liable to contain and develop an endless expansion and contraction dynamic, a dynamic enabling them to maintain a high degree of organisation *far from equilibrium,* flowing in a kind of stratified mestastability. We will now return to the alternation of tension and compression to study how it is not enough for these moments of reaction and diffusion to be linked but for them to do so at the appropriate scale or range. We will not accept the argument, as Stuart Kauffman does, that works of art and aesthetic experiences constitute ordered systems "on the edge of chaos" (Kauffman, 1993); rather, it must be emphasised that they are systems capable of both producing an order out of chaos and taking them to chaos — to *another* chaos — through order.

We can also look at this dynamic taking into account Bacri's and Elias' conclusions in their research on morphogenesis. This shows how "self-organisation itself derives from the simultaneous presence, within a system, of a small number of physical ingredients: a very short-range repulsive interaction, a medium-range attractive interaction and a long-range repulsive interaction are quite sufficient to produce this multitude of equilibrium conformations" (Bourgine; Lesne, 2011: 16).

Thus, in ferrofluid systems, the "short-range repulsive interaction" occurs between the molecules of different species, thus avoiding the interpenetration of matter and maintaining the particles arranged in space. In its turn, the "medium-range attractive interaction" will occur between the molecules of the same species that will aggregate with each other, thereby forming dominions of a phase within another phase, as happens with a drop

of oil floating on water. Finally, a third dynamic emerges "common to all the systems that possess an internal architecture at equilibrium: an additional repulsive energy between the entities that make up the system" (Bourgine; Lesne, 2011: 20). Macroscopically, this energy tends to increase the distance between the entities that make up the system and repel each other.

What this self-organisation dynamic shows us, and which can be of some importance for a reflection on the relational aesthetics paradigm, is that, in the first place, any artistic practice *must* contain conflict in its very entrails, within the stories — be they chords, characters or images — through which the formativity process in question is constructed. This "short-range repulsion" means, for instance, that the characters of a drama are not flat but sinuous, ambiguous or contradictory, such as Odysseus, Antigone or Clint Eastwood, or that the tonal tension in a sonata or a symphony does not sound stereotyped or become a pastiche. When this short-range repulsion is lacking, within the very core of the work in question, we find something similar to an *internal aestheticization* which brings us a work lacking in strength, a work that is born dead as it is predictable or vulgar. If a poetics tries to suppress the internal conflict, the *medium-range repulsion,* removing the internal tensions and contradictions, it will irremissibly fall — whether it is an action movie or a romantic novel — into the most horrendous kitsch.

But, beware, because it can happen that, seeking to flee the kitsch or the saccharine, our poetics is too enchanted with its ground-breaking or astounding nature, too pleased with its capacity for repulsion. In these cases, we must keep in mind the need to build a *medium-range attraction*. With this we will run the risk of its aesthetic and political chore being unintelligible, rejecting the possibility of being shared by and integrated into the repertoire of its receiver. Thanks to this medium-range attraction, the structural repulsion is relatively contained, caught in the structural ins and outs of the piece. This is why, as Bacri and Elias argue, "the effect of confinement can be a necessary condition for self-organisation" (Bourgine; Lesne, 2011: 37). The characters in literature or drama, like the musical themes in tonal music or formulas in ancient epics (Parry, *The Making of Homeric Verse*), can provide us with these forms of confinement and finally orchestrate the appearance and unfolding of the work itself until generating an *homogenous medium* (Lukács, *Aesthetics),* or, rather, a homeorhesic medium, endowed with what in *La dolce vita* Fellini called an *ordine incantato,* the enchanted order that makes it work as a "medium-range attraction". Needless to say, this attractive dynamic does not constitute a formal request exclusive to classical poetics but a general condition for intelligibility, for the very consistency of the work of art. If the work of art did not constitute this kind of "island of compression in an ocean of tension", to use Buckminster Fuller's terms, then we could not go back to it, we could not yearn for it or meet in it, but it would disaggregate even before we had finished seeing it, it would dissolve before our eyes without us being able to interact with it or nourish the conflict to which it will lead us. This is undoubtedly the main weakness of *liquid art,* which can only appear as a bad intelligence of the self-organisation processes that cannot occur within the alternation of repulsion, attraction and repulsion again on the right scales.

This is the dynamic that comes about through "medium-range repulsion".

As we have seen, the work of art and the aesthetic experience have not only accommodated conflict from its early moments and managed to keep this conflict relatively contained in an illusorily confined and even harmonious form, but will also have to prepare us for *another* conflict; another conflict that will now be external and fully unfold in the public sphere, in the street or in the sensitivities of isolated individuals or of the multitudes that couple with it. When we are left without this medium-range repulsive dynamic we find ourselves very close to what Benjamin would call an "aestheticization of politics" and which occurs every time we are dealing with the *landscape* and the complex as if it were prone to being encapsulated in a romance or fairy tale with a happy ending.

Thus, although a work accommodates conflict and can weave its terms into a homogenous medium, if it sees its capacity to return this conflict to the world truncated, in the form of a "medium-range repulsion", then it will be unsettlingly sterile, however much this external conflict is well documented and is as lucid as a work by Hans Haacke or Santiago Sierra. In these cases, the specificity of the long-range repulsion-conflict will vanish and will be limited — in the best of cases — to being shown duly packed and labelled in the most whitened museums.

What this dynamic of repulsion-attraction-repulsion — or of estrangement, harmonisation, estrangement — shows us in the field of aesthetics is of the utmost importance, given that it reveals to us the levels in which a work *must* and *must not* be conflictive, harmonious and conflictive again.

Whatever the case, it is important to note that these three dynamics we are seeing here are fully co-dependent. This means that the external conflict, the long-range repulsion that committed or activist works of art seek to provoke, cannot be improvised, and even less so depend on the good intentions or fine words of the artist or the performers. On the contrary, it will be necessary for the work itself — we repeat — to also accommodate conflict in its own creation process and for this internal conflict — however counterintuitive it may seem at first sight — to be presented arranged into something sufficiently homogenous and stable so that it can be experienced in a consistent and shared way.

This set of dynamics, conflicts and agreements will be inherent in all artistic languages insofar as it operates as a self-organisation system. Of course, there will be very significant variations in the degrees of emphasis that different periods and sensitivities have granted to given moments of the process. These variations will give way to the diverse practices, closer to classicism if they emphasise medium-range attraction and homogeneity; closer to romanticism and expressionism if they seek out repulsion in the form of internal conflict, and finally closer to committed or activist art if they prioritise external conflict. Nevertheless, these variations characteristic of all poetics should not mean that we lose sight of the importance of maintaining the game between the three dynamics alive and open, or above all the relevance of a correct assignment of the conflict or repulsion in the extreme ranges and harmony-attraction in the medium range.

The critical performance of this tool becomes clear by just reviewing some of the pieces that, in his time, Bourriaud set out as flagships of "relational art". Thus, some of the pieces by Rirkrit Tiravanija or Gabriel Orozco most appreciated by Bourriaud would seem to work the other way round; in other words, it would seem as if their characteristic dynamic is rather one of attraction-repulsion-attraction. What we find is that in the shorter range, that of the very constitution of the ingredients of the work, there is no conflict through complacence; Tiravanija's soup or Orozco's oranges do not contain — or at least do not show — conflict or contradiction, as would happen if there were strange elements floating in the soup or if the oranges had signs of putrefaction or of their industrial origin. In contrast, when passing to the intermediate range we find traces of conflict, as it is at this level where the works or interventions might function properly as "works" that constitute a homogenous medium — returning to Lukács — and that they are able to generate an *apate*, an aesthetic illusion that would capture the spectators' attention and introduce them in their game. Thus a medium-range conflict appears because it is almost always a self-referential conflict in the long — and already somewhat withered — romantic/avant-garde tradition that practically obliges a repudiation of the status of the artistic. It seems as if artists are afraid of formulating a work that may show coherence, even internal need. To overcome this danger, the works in question seek this conflict — eventually sterile — and are content with showing their seams and even unravelling themselves in the medium range in which they would indeed be capable of proposing something that would have a lasting effect on us and generate landmarks.

Finally, and now addressing the long-range dynamics, we find again an inversion of the self-organisation logic, given that here any effective political conflict or hope is carefully avoided. In the end — as Bourriaud does not tire of proclaiming —, these works must take place within the gallery or the museum, or if they take place in the street they must have their appropriate institutional coverage.

In this way, the bad intelligence which, at least partially, has jeopardised relational art practices is highlighted, given that by limiting the conflict in the medium range and dissolving it both in the short and the long range the critical lucidity is avoided both at a tactical and strategic level, while the *disagreements* remain limited to a rhetorical and inoperative issue. This is what happens when the work in question proves to be incapable of both setting forth its own internal quarrels and weaving with the political and social forces capable of *understanding it* and assuming the demands of its time and circumstances. With all the nuances possible, the cases of Berliner Dadaism, the Soviet avant-garde from Tatlin to Mayakovski, or of poets such as Miguel Hernández and Gabriel Celaya in our own recent history[4] embody artistic processes that let us particularly glimpse this social and political articulation on which the medium-range repulsion-conflict depends.

----

4.   Of course, we could provide more recent examples if we considered groups whose activity ranges from the 1990s (The Yes Men, Kein Mensch ist illegal, Ne pas plier or La Fiambrera) to the years before and after 15M, notably Orxata Sound-System or Redretro.

Only in this way can this *external* conflict be incorporated by the agents at play and re-appear then as an *internal* conflict, at the start of a new cycle of formativity, which must in its time opt for some form of order and which in its turn will accompany us in a new emergence of the medium-range external conflict.

This dynamic, which — we argue here — is the characteristic of the self-organisation processes, explains why in Miguel Hernández' work, to continue the example, we find short-range conflict in verses such as *"Temblad, hijos de puta, por vuestra puta suerte"* [Tremble in fear, sons of bitches, for your fucking luck]; medium-short attraction by including these types of verses in the form of a sonnet or an eclogue, and finally a new long-term repulsion — as we have seen — of the social and political articulation of the artists and social movements they had to deal with.

Aesthetics, as a philosophical discipline deeply articulated with the artistic practices, can now lend its specific lucidity to the efforts that, through other disciplines, are made to develop the potential of the complexity and self-organisation sciences.

❞

Bibliographical references

Agazzi, E. *Complexity and Emergence.* London: World Scientific Publishing Co., 2002.

Bacri, J. C.; Elias F. "Ferrofluids: A Model System of Self-Organized Equilibrium". In: Bourgine, P.; Lesne, A. *Morphogenesis, Origins of Patterns and Shapes.* Berlin: Springer Verlag, 2011.

Blanco, Paloma [*et al.*]. *Modos de hacer*. Salamanca: Ediciones Universidad de Salamanca, 2001, p. 396.

Bourriaud, Nicolas. "Estética relacional". In: *Modos de hacer: arte crítico, esfera pública y acción directa.* Salamanca: Ediciones Universidad de Salamanca, 2001.

Bourriaud, Nicolas. *Estética relacional.* Buenos Aires: Adriana Hidalgo Editora, 2008.

Blanco, Carrillo, Claramonte and Expósito (Eds.). *Modos de hacer: arte crítico, esfera pública y acción directa*. Salamanca: Ediciones Universidad de Salamanca, 2001.

Davies, P. *The Cosmic Blueprint.* Radnor: Templeton Foundation Press, 2004.

Franceschelli, S. "Structural Stability, Morphogenesis and Epigenetic Landscape". In: Bourgine, P.; Lesne, A. *Morphogenesis, Origins of Patterns and Shapes.* Berlin: Springer Verlag, 2011.

Isaeva, V. V. *Synergetics for Biologists: An Introductory Course.* Moscow: Nauka, 2005.

Lukács, G. *Aesthetics.* There is no complete edition of Lukács' works in English. The most accessible collection is the (incomplete) German edition of his works: Lukács, G., 1968-1981, *Gesammelte Werke*, Darmstadt: Luchterhand.

Parry, Alan. *The Making of Homeric Verse.* Oxford: Clarendon Press, 1971.

Thompson, D'Arcy Wentworth. *On Growth and Form*, Cambridge: Cambridge University Press, 1959.