Texts in N-Dimensions and Interpretation in a New Key [Discourse and Interpretation in N-Dimensions]

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Abstract

The IVANHOE project can be understood in various ways – an interpretive environment, a tool of collaborative critical thinking, a pedagogical game for studying cultural materials – it emerges out of a basic shift in the theory of texts and textuality. IVANHOE is regulated by seven key ideas: 1. The textual field is a Baktinian space (heteroglossia); 2. In textual space, a equals a if and only if a does not equal a; 3. Textual fields arise codependently with interpretative action; 4. Textual forms are generated by algorithmic and autopoietic devices; 5. Interpretive action is always performative/deformative; 6. Interpretation of a textual field proceeds at an inner standing point ; 7. Textual fields are n-dimensional.

Act always so as to increase the number of choices. The aesthetical imperative: If you desire to see, learn how to act.

Heinz von Foerster, *Observing Reality*

IVANHOE is a project to begin realizing a set of new ideas about textuality and semiotic fields. The essays in this collection examine the project as an educational game of interpretation, an interactive digital environment for studying cultural materials, an online annotation tool, and a device for enlisting computer technology in the service of critical thinking – especially thinking about literary and other aesthetic works.

Each of these descriptions would fairly characterize important features of IVANHOE. But the project can be usefully approached from the slightly different perspective of the history of the book and theory of textuality. This point of view is important to preserve because IVANHOE emerged (a) at a significant point in time in the history of textuality, and (b) as an explicit move to force a rethinking of some basic received ideas about literary works and how we engage them in a critical way.

First of all, IVANHOE is a program of reading traditional works of culture and the documents that instantiate those works. We believe that

digital tools offer special advantages for implementing the project, but in fact IVANHOE can be (and has been) undertaken quite well in a purely paper environment. IVANHOE was first implemented in a gaming mode by Johanna Drucker and Jerome McGann and it has since been "played" as a "game" a number of times. But IVANHOE need not be organized as a game, it could just as well be a space for imaginative play, a kind of multiple-user toy. Finally, because those who originally conceived IVANHOE were most interested in how to read and rethink imaginative works and documents, the project has to this point been tested exclusively with literary works: *Ivanhoe* itself, *Frankenstein*, *Wuthering Heights*, *The Turn of the Screw*, and *The Four Zoas*. In the case of the last of those works, IVANHOE was run as a collective research project.

Before considering the ideas that underlie and get put into action through IVANHOE, it will be helpful to begin at a phenomenological level – with a mental picture of what it looks like to play or implement a session of IVANHOE. A group of people, two at a minimum, agree to collaborate in thinking about how to reimagine a particular work, say *Ivanhoe.* The agreement is that each person will try to reshape the given work so that it is understood or seen in a new way. The reshaping process in IVANHOE is immediate, practical, and performative. That's to say, the interpreters intervene in the textual field and alter the document(s) by adding, reordering, or deleting text. Interpreters are expected to produce a set of interventions that expose meaningful features of the textual field that were unapparent in its original documentary state. Interpreters will also look for ways that their interventions might use or fold in with the interpretive moves of others working the collaborative session of IVANHOE.

Some analogies may be helpful. IVANHOE's interpreting agents approach their work much as performers or conductors approach a piece of music, or the way a director approaches a play. The performance in these cases fashions an interpretation of the original work, and the result is what Gertrude Stein, in a slightly different sense, called "Composition as Explanation". Performative interpretations of all kinds – translation, for example – have much in common with IVANHOE. Book artists and illustrators work along similar interpretive lines, and we have many cases where authors themselves illustrate or design the embodiments of their own textual works, thereby glossing them with intervening sets of interpretive signs. Some notable figures integrate text and visualization into a composite or double work – in England one thinks immediately of Blake, Dante Gabriel Rossetti, Edward Lear, Lewis Carroll. Or consider how "The

Matter of Arthur" or "The Matter of Troy" are conceived and elaborated. A set of legends centering in the Trojan war and in King Arthur multiply as versions and variants that expose fresh ranges of meaning resting latently in the materials. The interpretive transformations that unfold in a session of IVANHOE seek to exploit a logic of interpretation of those kinds.

IVANHOE is not like a "creative writing workshop", however. Its textual transformations get executed in a frame of reference focused on the significance of the changes *in relation to the originary textual field and the changes that one's collaborating agents make to that field*. The presence of the initial state of the text(s) is always preserved because the point of IVANHOE is to study that field of relations as it provokes or licenses its readers to reimagine its implications and textual possibilities. Interpreters are expected to keep a journal in which their interpretive moves are justified and explained in relation to the originary work and/or the moves made by the other agents.

Conceptual Foundations of IVANHOE

IVANOE is thus a proposal for reading and thinking critically about textual fields, especially traditional works of literature and culture, in the historical context of the late 20th century, when such works found themselves in a collision with born-digital textualities. The volatile convergence of these two semiotic machineries has made possible a new set of parameters for studying and using expressive forms, paper-based as well as digital. IVANHOE is not, however, a new "theory" of textuality. It is a practical mechanism – a kind of laboratory – for experimenting with these ideas and refining our understanding of them, and of their relevance to the general inquiry they have set us upon.

Here is a list of the ideas that have regulated the development of IVANHOE. We will take up each of these topics and gloss its pertinence to the work of the project.

> 1. The textual field is a Baktinian space (heteroglossia)
> 2. In textual space, a equals a if and only if a does not equal a
> 3. Textual fields arise codependently with interpretative action
> 4. Textual forms are generated by algorithmic and autopoietic devices

5. Interpretive action is always performative/deformative
6. Interpretation of a textual field proceeds at an inner standing point
7. Textual fields are n-dimensional

Each of these ideas is heavily invested in the others, and we do not want to think of them as forming a serial or hierarchical set. They are in a sense redundant expressions of a single proposal for thinking about textuality and fields of discourse. We have arranged them in this particular sequence strictly for rhetorical purposes, to help clarify the experimental domain that IVANHOE marks out for itself.

The textual field is a Bakhtinian space (heteroglossia). We begin here because Bakhtin's critical revision of formal and structuralist models of textuality is well known and broadly dispersed in literary and cultural studies. Focusing on the socio-linguistic dimension of textuality, Bakhtin demonstrated how texts are immersed in a complex "discourse field" of conflicting, competing, and overlapping "languages". Critical analysis can show how any given text folds multiple expressive forms into an organized set of dominant and indominant features. Language users inherit linguistic codes of many kinds from different sources, and while certain of these exert primary control in the organizing of meaning, latent and recessive linguistic forms are deeply imbedded in the discourse field. Bakhtin's method is to show the structure of these heteroglossial forms in particular works and to demonstrate from his case studies some general principles about discourse fields and their dialectical dynamics.

Because Bakhtin's method is fundamentally oriented toward classical philology, his work does not factor into its analysis any critical reflection on the phenomenology of his own criticism. While his own critical "method" is thus more flexible than the non-historicist "formal methods" he opposes, it too, like the latter, does not incorporate a "critique of enlightenment" into its procedures. Like classical science, Bakhtin's method proposes that, given ideal conditions, it could expose the entire linguistic truth of any text.

In textual space, a equals a if and only if a does not equal a. Bakhtin's work prepared the ground for a more fundamental reassessment of textuality. Any given natural language text (so-called) will be marked by the presence of different language games. Imaginative texts work by exploiting these multiple expressive agencies while expository texts, which pursue an informational goal, seek to minimize ambiguity. The most

extreme cases of the latter would be the formal languages written for computers. The latter propose to construct sign systems that close coherently upon themselves. They are systems where a=a. But in any mother tongue, while the value of a(syntagmatic or semantical) always has a known range of normalcy, it remains open to random change and is thus strictly unpredictable. This is the message that Humpty Dumpty gives to Alice, who was raised to think and speak in normal Victorian ways. Of course Victorian Alice, being both a child and a girl, has the curiosity of a subaltern person. That curiosity – Pierce called it "abduction" – sends her through the looking glass where she can begin to reimagine the world.

Formal languages are created as a function of natural language – a far richer and more powerful sign system than digital signs precisely because, in fact, a does not equal a, as any glance at a dictionary will immediately reveal. Indeed, the two most ambiguous and meaning-flexible words in the English language are the simplest, the articles "a" and "the". Textuality is, like light, fundamentally incoherent. To bring coherence to either text or to light requires great effort and ingenuity, and in neither case can the goal of perfect coherence be attained.

The paradox involved in this principle is, like all paradoxes, only apparent and logical. It arrests our attention simply because the principle of identity is taken as axiomatic in every discipline of knowledge we employ. It can be shown logically that the principle of noncontradiction is self-contradictory – a demonstration that was apparently first made by Nagarjuna in the fifth century. Far from a being equal to a, we know on the contrary the truth of the following conventional idea: that "nothing is what it appears to be".

In order to know anything, however, we have to propose the useful fiction that a=a. From this conscious intellectual move we can proceed to execute the primary critical act: we can draw a distinction, from which further sets of distinctions can then be generated.

The non-selfidentity of objects in a discourse field is not, however, primarily a logical function – or at any rate does not immediately (phenomenologically) strike us as such. Semiotic and linguistic forms are incoherent because they have to be marked in order to be perceived at all. The marks are acoustic, calligraphic, typographic, digital; they are phonological, ideographical, alphabetical; they are semantic and syntactic. Each of these forms of distinction cuts the textual field and divides it from itself according to some assumed point of view and set of protocols. The textual fields that we know are fields that have been marked for knowing in

particular ways. D. G. Rossetti wanted to represent this phenomenon in a pictorial image. He called the work – which he never carried beyond an initial sketch -- "Venus Surrounded by Mirrors, Reflecting her in Different Views".

The elementary forms of textual markup listed above are commonly deployed in instrumental ways so that we use them without thinking about them, or even being aware of their presence. This functional transparency promotes the (useful) illusion of seamlessness and coherence in textual fields, and of the ultimate illusion that objects in the field are self-identical – indeed, that they are "objects". Poets and book artists, on the other hand, regularly introduce second-order markup in order to expose the dynamic complexity of the textual space – to strip away the text's "veil of familiarity", as Shelley called it, and reveal it as a "dome of many-coloured glass".

These kinds of moves disrupt the self-transparency of the first-order markings and drive the textual field toward its natural state of incoherence. Or to put the matter more accurately, they construct second-order illusions that expose the functioning presence of the first-order illusions. (An analogous process occurs when quantum physicists mark their field measurements for "renormalization".) Text illustration or – as in Mallarmé's *Un coup de dès* -- deliberated typographical form introduces this second, non-transparent sign system into what would otherwise be read as a purely linguistic field. The resulting composite or doubled work gains a marked increase in self-reflexive form, creating a textual field that is able to comment upon itself. Certain of D. G. Rossetti's double works – most particularly his arrangement of sonnets and painting known as T*he Girlhood of Mary* -- comprise an explicit manifesto for this kind of self-reflexive semiotic field.

Textual fields arise codependently with interpretative action. Speaking of the existential graph exhibited on what we now call MS 514, Charles Saunders Pierce remarked that its highly articulated structure required only one premise: that there be a space, a blank sheet, where the structure could emerge. But the graphical demonstration of MS 514 required something else: a mark to call the space into action. G. Spencer Brown would put the issue succinctly a half-century later: all laws of form extrude themselves from the assertion that "A distinction is drawn" (_Laws of Form_, 1). What is involved here is not an abstract, but an embodied and executed, idea. The statement "A distinction is drawn" is an index of

the demonstration which it initiates in the book titled *Laws of Form*.

Here is a simple example to illustrate   Brown's point. A mark made randomly – for instance, from a meteor striking the earth – draws no distinction. Indeed, the gash in the earth is not a mark at all. Only when the gash has been marked as a sign do we see the emergence of a mark. To give any "cause" for the gash – to say, for instance, that it was made by a meteor – is already to have marked it with meaning. The marked field thus arises as a codependent function of some agency that makes a distinction.

Like biological forms and all living systems, not least of all language itself, textuality is a condition that codes (or simulates) what are known as autopoietic systems. These systems are classically described in the following terms:

> If one says that there is a machine *M* in which there is a feedback loop through the environment so that the effects of its output affect its input, one is in fact talking about a larger machine M^1 which includes the environment and the feedback loop in its defining organization. (Maturana and Varela, AC 78)

Such a system constitutes a closed topological space that "continuously generates and specifies its own organization through its operation as a system of production of its own components, and does this in an endless turnover of components" (Maturana and Varela, AC 79). Autopoietic systems are thus distinguished from allopoietic systems, which are Cartesian and which "have as the product of their functioning something different from themselves" (Maturana and Varela, AC 80).

In this context, all coding systems appear to occupy a peculiar position. Because "coding. . .represents the interactions of [an] observer" with a given system, the mapping stands apart from "the observed domain" (Maturana and Varela, AC 135). Coding is a function of "the space of human design" operations, or what is classically called "heteropoietic" space. Positioned thus, coding and markup appear allopoietic.

As machines of simulation, however, coding and markup (print or electronic) are not like most allopoietic systems (cars, flashlights, a road network, economics). Coding functions emerge as code only within an autopoietic system that has evolved those functions as essential to the maintenance of its life (its dynamic operations). Language and print technology (and electronic technology) are second- and third-order autopoi-

etic systems – what McLuhan famously, expressively, if also somewhat misleadingly, called "extensions of man". Coding mechanisms – proteins, print technology – are generative components of the topological space they serve to maintain. They are folded within the autopoietic system like membranes in living organisms, where distinct components realize and execute their extensions of themselves.

This general frame of reference is what makes Maturana and Varela equate the "origin" of such systems with their "constitution" (Maturana and Varela, AC 95). This equation means that codependency pervades an autopoietic structure of relations.

All components of the system arise (so to speak) simultaneously and they perform integrated functions. The system's life is a morphogenetic passage characterized by various dynamic mutations and transformations of the local system components. The purpose or goal of these processes is autopoietic – self-transformation and self-maintenance – and their basic element is not a system component but the relation (codependence) that holds the mutating components in varying states of dynamic stability. The states generate measurable codependency functions both in their periods (or basins) of stability and in their unique moments of catastrophic change.

In the horizon of textuality, autopoiesis measures the codependency of those entities conventionally named "the work" and "the reader". Barthes's injunction "From Work to Text" was an initial move to break the positivist analysis of the textual condition by marking the object of interpretation not as an empirical object but as a sign system. The legacy of such a view is concretely realized in the discipline of Cultural Studies, where the distinction between an empirical object and its interpretation is not a procedural assumption but a central problem and focus of attention.

Textual forms are generated by algorithmic and autopoietic devices. An algorithm is a step by step procedure to bring about some intended result or function. Cook books and instruction manuals exhibit algorithmic forms in natural language. Like computer algorithms, their immediate horizon is allopoietic. But to observe this is immediately to see that when any given allopoietic function is resituated in a larger systemic context, its autopoietic character begins to emerge. Cook books and instruction manuals are autopoietic maintenance functions within higher-order cultural formations. Thus we see that the distinction between allopoiesis and autopoiesis is functional, that the two processes themselves stand in a relation of codependency.

Literary works emerge from and feed back into the agencies that name and preserve them as such. The works and the agencies are codependent – a relation signaled in the following famous lines: implicitly at the linguistic level, explicitly at the documentary.

> "Not marble, nor the guilded monuments
> Of princes, shall outlive this powerful rhyme."

Shakespeare's is merely one of countless declarations about the autopoietic character of poetry and artistic work. The lines are themselves, moreover, a procedural move in a complex code that maintains itself by having itself continuously modified and rewritten. A host of commentators, exegetes, and instructors attend upon these lines, including ourselves at this moment, refusing their extinction, executing Shakespeare's code, and pointing out that these scripts recode an instructional line whose origin is dateless, whose recodings perpetual. The most celebrated precursor texts in Ovid and Horace are themselves at once signs and agents of the process.

In this sense we must be ready always to move "From Text to Work" since the sign system of any phenomenon is so widely dispersed: by no means to be identified with some particular text we see on some particular page. That text locates only an instantiated moment – itself highly volatile – of an autopoietic "work" generated from the double helix of its production history and its reception history.

Unlike cook books and instruction manuals, poetry and other forms of imaginative textuality comprise high-order signal codes. Poetry's autopoietic character is a commonplace among its commentators: "poetry makes nothing happen", it affirms nothing and denies nothing, or (perhaps) it builds *airy* nothings and creates virtual, self-subsistent worlds. In this precise sense we also say, have always said, that it holds a mirror up to life. A magical mirror, like Lewis Carroll's, or like the mirror in Cocteau's *Orphée*. For living systems are themselves autopoietic.

On the other hand, because art and poetry function in a larger (human) world, to say that they make nothing happen is plainly untrue. To expose for reflection an operating autopoietic structure is itself an allopoietic function. These functions are always in play, however, most prominently in forms of satire. Swinburne's famous *Poems and Ballads* (1866), that hornbook of aestheticism, has as its product something different from itself. Swinburne wrote the book to make a public stir, which it succeeded in doing. Even the supremist of fictions, like the poetry of

Stevens, make pledges of allegiance to a cause – Mallarmé called it *poésie pure* – that is surely directed at something other than itself. The history of the emergence of aestheticism -- of any artistic movement for that matter – measures the allopoietic functions being executed in the codes of a supervening autopoietic system.

The algorithmic structure of poetical textuality is most aggressively articulated in a Byronic line of work that emerges with Poe, gains greater explicitness in nonsense writing and the outrageous experiments of Lautréamont and Jarry, and culminates in Roussel, OULIPO, and the vigorous tradition of procedural writing of the late twentieth-century. We set these writers apart only because they call explicit attention to something that is universally the case: that a literary work codes a set of instructions for how it should be read. Unlike machine and program codes, however, these codes decipher to an indeterminate number of precise outcomes. They represent exactly what Jarry called "a science of exceptions".

IVANHOE is the name of this project partly because it so dramatically illustrates the operation of this kind of coding, and partly because it hasn't been a name to reckon with since the nineteenth-century, when it was regarded as "the epic of its age", as Balzac remarked. When *Ivanhoe* was published it birthed a reception history that spread in endless commentaries and mutated into theatre, popular and serious rewritings, music, art. It was a book with many lives hidden in its codes and waiting further realization. Nothing illustrates this fact so well as its moment of immediate reception. An instant success, the book brought as well a corps of sympathetic readers to complain that the story had come out wrong. The final marriage should have been between Rebecca, not Rowena, and Ivanhoe.

And of course it is perfectly true that this outcome is coded as an imaginable possibility in the book. The criticism exposed Scott's version of the story as one that was chosen, but that might not have been. When Johanna Drucker and I first played IVANHOE, my textual transformations were all directed to recasting the book so that, in the end, Rebecca and Bois-Guilbert end up together. This (clearly Byronic) reading of the tale responds to codings that are clearly present, if unexploited and even resisted, in the *Ivanhoe* Scott published. Reorganizing the book so that this outcome brings a critical explication to Scott's work. Many other features and elements in the book might be imagined as part of an interpretive assessment of its tensions and complexities, and the same thing is true for any aesthetically coded work.

Interpretive action is always performative/deformative. The broad prac-

tice of literary and cultural theory during the past half-century did much to restore this kind of performative approach to critical work. Barthes and his successors did not have to struggle against the empirical historicisms that so plagued Nietzsche. The service economics of nineteenth-century philology had been supplanted in the academy by a different nineteenth-century model derived from Coleridge's idea of the clerisy and subsequently modified to a more secular Arnoldian form. This creature, the famous New Criticism, was Barthes – and Theory's – point of departure. [of remains wedded to Barthes' work proved important for exposing the reader's part in shaping the contours of meaning. IVANHOE clearly inherits this Barthesian legacy of an active readerly involvement in the recoding of textual field relations.]

When the academy set the interpretive essay at the center of its critical agenda, it reified the integrity of "the poem itself". Like the historicist practices it was replacing, this procedure marked critical reflection as a spectator's game. The case of Freudian and psychoanalytic criticism, so central for twentieth- century modernism, is exemplary here. It took the startling work of Lacan to show that psychoanalytic method had more in common with astrology and midrash aggadah's superb imaginative flights from the word of God than it did with science; and that it would be most accurately used as a stimulating imaginative commentary upon elusive and imaginary materials – ultimately, as a reflection on the discourse of ideology fashioned within the space of ideology itself.

Between *Philosophical Investigations and Of Grammatology* a great shift had taken place in the concept of criticism. No longer tied to a system (Kant, Hegel) or even to a set of ideas (Arnold), criticism now seemed better pursued as a reflective or rhetorical practice: provocative strategies of thinking rather than an exemplary body of thought. This philosophical turn had an enormous impact on literary and cultural studies. Nonetheless, positivist ideas about textuality have remained strong. Nowhere is this fact more clear, or perhaps more suprising, than in the cultural study of digital media, which is regularly celebrated as the convergence of a dynamic medium with a dynamic reader – in contrast to traditional text, which is represented, by contrast, as inert. A digital environment with hyperlinks is called "active" and a website like amazon.com appears to talk to its customers and anticipate what they want. To the degree that any dynamic interaction between human and machine actually occurs in a digital space, however – an unlikely event at best – it differs from the interaction between a book and a reader only in the speed with

which information is transacted and exchanged. Book space, like digital space, is a field of simulations, and in each case the machine is capable of connecting itself to a host of related, equally complex information networks.

In one obvious and crucial sense the book-machine may license far greater flexibility, range, and speed for a reader than digital space offers to its users, so linked to visualizations as digital tools currently are. The visual constraints of book technology have coded its space as primarily a space of imagination – in the most technical sense – whereas digital space is being coded primarily in sensational terms. Because a persistent romantic ideology assigns a kind of transhuman value to imagination, this difference produces works like *The Gutenberg Elegies*. The IVANHOE project sees no reason to resist the resources of either machinery. Indeed, one of the project's chief aims is to build an interface where these two information technologies can be made to interact and reflect upon each other.

In that frame of reference, IVANHOE proposes that Barthes' theoretical orientation to textuality be critically assimilated to the approach of another dialectician of texts who emerged in the same period: Galvano della Volpe. Although both were in debt to Marxist dialectics, Barthes' roots went to structural linguistics, while della Volpe's were philological. In della Volpe's view, the agency of the reader would always be checked and constrained by the heteroglossia of the texts under examination. The reader's part, according to della Volpe, was to produce an interpretation of a given work – he called it a "quid" – which would then be tested for its adequacy as an account of the work being interpreted. A successful interpretation would clarify salient lines of interpretive failure and thereby feed back into a new set of interpretive moves.

What joins Barthes and della Volpe is their shared understanding that interpretation makes an active move upon the textual inheritance. This was a common theme in a period that saw the emergence of deconstruction, various hermeneutics of suspicion, and – not least remarkable – Harold Bloom's celebrated dictum that "all interpretation is misinterpretation." All are highly performative, not to say deformative, modes of critical engagement. With certain notable exceptions – Susan Howe, for instance, and Charles Bernstein -- all of this critical work preserved the idea of a careful separation between the integrity of an observed object of criticism, and the integrity of the critical observer. The thinking was the clear legacy of nineteenth-century philology and the scientific models it pursued.

Because the performative character of "Theory" has been largely pursued within models inherited from the nineteenth-century academy, its transformational power has been checked. An empiricist inertia gets passed on through these models that late twentieth-century theorists struggle against, as one can see in the period's fixation with Nietzsche. Derrida stands virtually alone among that celebrated theoretical company in having produced works like *Glas* and *The Post Card*. For a period with such an academic interest in pastiche and parody, few academics availed themselves of the resources of those performative critical subgenres. Frederick Crews's remarkable *The Pooh Perplex* (1963) created a noise like a tree falling in an empty forest. Perhaps his wicked reprise, *Postmodern Pooh* (2001) will wake some of his neighbors up.

The most arresting and important critical deformations of the late 20th century would come, however, from an unusual quarter: from bibliographers and scholarly editors. For nothing strips away the veil of familiarity from an aesthetic work like an elaborate scholarly edition. These works help to restore the originals to a modicum of their true autopoietic range, depth, and multiplicity. They drive their readers – if those who enter such works can still be called readers – back to the foul rag and bone shops where these works made (and keep making) their grand and (dis)continuous historical passagings. Change, nonselfidentity and metamorphosis rule the field of texuality because it works are material incarnations.

Massive acts of bibliographical defamiliarization were executed on the works of key figures: Coleridge most recently, but the line reaches back to the genetic editing of Hölderlin at mid-century and has carried forward in different ways to the works of Shakespeare, Flaubert, Dickinson, Joyce, and others. Imagine trying to read Wordsworth in that magnificent library of Babel, "The Cornell Wordsworth". Or Rossetti in the labyrinths of *The Rossetti Archive*. Looming over all this work in his bad and magnificent eminence is the Renaissance bibliographer Randall McLeod. At once ludic and immensely learned, McLeod's scholarship came before IVANHOE as a chastisement, a spur, and a liberation.

Interpretation of a textual field proceeds at an inner standing point. Funding many of these forms of critical energy – these tigers of instruction -- is a belief in the enlightened power of the critical mind. IVANHOE was conceived, however, to speak somewhat preposterously, as a kind of negation of that negation. IVANHOE is organized so that those working in its spaces will continually encounter themselves as part of the subjects they address and the problems they want to solve.

Some of this model comes from the Socratic tradition, but the immediate inspiration was D. G. Rossetti's idea that a critical art should execute itself at what he called "an inner standing-point". This vantage is especially important in difficult cases since they are difficult exactly because they define an area of volatile opinion and judgment. Rossetti developed his theory, first, when he constructed a procedure of critical pastiche for handling medieval religious materials in the radically belated and alien context of middle-class Victorianism; and second, when trying to find a way to expose the volatile subject of Victorian prostitution and the relation between ideal and sexual desire. For its part, the great force of Plato's myth of Socrates rests in the inner standing-point from which Socrates pursued his inquiries. *The Apology* is the touchstone document for Plato since it defines all of Socrates' dialogues as life and death matters.

Critical measurements, whether scientific or humane, fall under the rule of a Heisenbergian uncertainty. Burns's reformulation of that rule – "To see ourselves as others see us" – has proved an especially useful guide to method in IVANHOE. The space is organized so that players are twice constrained to an inner standing-point. The first constraint comes from the impinging social nexus of the other player's subjective moves. The second is a function of a refinement made to IVANHOE after its first iteration. We realized that we could enrich the critical function of the play-space if the players would be required to execute their moves *en masque*. A second level of reflection emerges when players construct their moves as if they were being made by some specific person or character. When we tested IVANHOE with the focus on *Wuthering Heights*, for example, all of my moves were made as if by the notorious book collector and forger T. J. Wise.

Thinking slows the drift toward simple exposition when thinking includes itself in the field of its attention. It is intellectually dangerous to take what one says and thinks too seriously. A ludic element therefore pervades the idea and practice of IVANHOE. Comic and playful procedures are not only imaginative resources, as we know, but useful avenues for developing critical resistance to filtered and administered thinking, not least of all one's own.

Textual fields are n-dimensional. This idea is foregone within the six categories just examined. But the formulation "n-dimensional" is important as a rhetorical move to situate IVANHOE within a context where quantum mechanics and self-organizing systems can meet the hermeneutical tradition's commitment to the search for meaning.

We might begin from the following observation by the celebrated mathematician René Thom: "In quantum mechanics every system carries the record of every previous interaction it has experienced – in particular, that which created it -- and in general it is impossible to reveal or evaluate this record" (Thom 16). A literary scholar would have no difficulty rewriting this as follows: In poetry every work carries the record of every previous interpretation it has experienced – in particular, that which created it -- and in general it is impossible to reveal or evaluate this record." It is impossible because the record is indeterminate. Every move to reveal or evaluate the record changes the entire system not just in a linear but in a recursive way, for the system – which is to say, the poetical *work* – and any interpretation of it are part of the same codependent dynamic field. Consequently, to speak of any interpretation as "partial" is misleading, for the interpretive move reconstructs the system, the poem, as a totality. This reconstruction corresponds to what is termed in quantum mechanics the collapse of a wave-function into its eigenstate.

Note that Thom refers to an interpretation "which created" the system (as it were) in the first place. But the work of Merleau-Ponty, Maturana, and von Foerster – to name just the most prominent instances – has shown that this creating interpretation is what a positivist view would call, has called, "the poem itself". For certain interpretive purposes we find it helpful to think about "Kubla Khan" as Coleridge's creation, but other ways of observing the poem are normal. Indeed, except as an indexing convenience, Coleridge's authorship scarcely enters even a majority of the work's interpretations. "Kubla Khan" is not selfidentical, it is an emergent function in an autopoietic field that comprehends the interpretive agent. Since interpretive agency is a continuously evolving variable, and since the object of interpretation is a codependent function of that unfolding interpretive action, this field of textual relations must be understood as n-dimensional. Textuality is a dynamic space that can be organized in an indefinite number of perspectives. A particular "object of interpretation" comes forward as an object when it has been framed for interpretive attention. In that moment it collapses into an eigenstate – so called because the thing being measured and the measuring parameters are "momently forced" into a condition of equivalence.

To demonstrate how his "constructivist" philosophical position works, Heinz von Foerster proposed the following "Reality Game":

First, there must be two players…. They create a large board with lots of objects on it which they agree to call "The World." Then they put

themselves on the board and invent a set of rules for the objects. These rules they agree to call "The Laws of Nature." If, during the game, it turns out that the rules they applied in creating the objects don't jive with the rules they invented to play with the objects, they change these objects or change "The Laws of Nature."

Now they can play. The goal of the game is for both to agree on how they themselves shall move on the board, even under disagreement. It is clear that A can win only when B wins and vice versa. For if B loses, A is lost too. Then reality disappears and the nightmares begin.

The Reality Game has much in common with Peter Suber's rule changing game NOMIC, which it may well have inspired. IVANHOE too is a version of von Foerster's "Reality Game". IVANHOE is a less abstract game than either von Foerster's or Suber's, however, because "The World" of IVANHOE emerges through an intervention in an already given, quantized, and interpreted world. IVANHOE permits no illusion of an *ex nihilo* moment of creation: you don't invent objects or rules, you choose to move and define meanings in certain ways within a field already prepared – by being understood -- as n-dimensional.

One final note of clarification. Although textual fields, especially as they are aesthetically conceived, must be theorized as n-dimensional spaces, they always come to our attention in particular forms. Quantum theorists call these forms "histories" – that is to say, the set of the eigenstates which emerge through the experimental investigations (the interpretations). In quantum mechanics these histories are probability functions and their textual equivalents appear as an array of interpretations that organize themselves in similar ways. Stanley Fish's concept of an interpretive community is a device for measuring the probability function of different interpretive acts. How those probabilities emerge – how certain acts of interpretation gain authority – is a problem that will have to be addressed by studying the normative dimensions of textual fields. I believe that the work of René Thom holds great promise in this regard. Thom's "elementary catastrophes" develop a rich formal vocabulary for studying the transformations that are the defining feature of all dynamical systems. If one could construct for textual works a digital environment that can implement such a vocabulary and thus display those transformations, one will have demonstrated the viability of an interpretive method that could function at a quantum order.

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