

Concrete Constructions: Assembling a Postwar Poetics

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Abstract: This essay focuses on the manifestos and theoretical works of Concrete poets—primarily the German-language poets Max Bense and Eugen Gomringer, as well as the Noigandres group—examining their engagement with discourses of postwar modernity, including internationalism, design, and communication and information theory. While the movement’s programmatic texts at times proved unpersuasive or inconsistent, they nonetheless demonstrated a readiness or even eagerness to cross boundaries—both national and disciplinary—and to seek inspiration from scientific and technical fields in an attempt to articulate a new poetics suited to the modern age. Rather than see the movement’s manifestos and theoretical statements as hubristic promises that its poetry could never keep, this essay proposes that we see the poems and the programmatic texts as two parts of the same project, which claimed a place for poetry in a technologically saturated age.

Keywords: Max Bense, Eugen Gomringer, design, communication, information

In 1965, the German poet, theorist, philosopher, publisher, and professor Max Bense published *Brasilianische Intelligenz* (Brazilian Intelligence), a short book in which he described the contemporary intellectual and cultural tendencies he had encountered on four visits to Brazil.¹ In a brief preface, Bense argued “that the creative, not the contemplative” principle was central to Brazil’s intellectual life; it was “less the idea of (theoretical) separation than that of (practical) absorption” that “directed the existential relations” (*Brasilianische* 7). This focus

¹ For analysis of Bense’s representation of Brazil, see Wolfson; Wrobel.

on practical and applied measures rather than abstract principles, particularly in fields such as urban planning, visual art, and Concrete poetry, marked one of the defining features of modern Brazilian culture in Bense's view. While his account ostensibly aimed to capture what set Brazil's intellectual life apart from his own European milieu, his elective affinity for the culture he found in Brazil was unmistakable; Bense's descriptions of Brazil were thus marked by a certain amount of projection, as he emphasized the conjunction of "the creative powers of art" with "the rational forms and contents of human intelligence," a combination that he had already represented in his other works as indispensable to human life in the modern world (*Brasilianische* 34).

Bense, who had studied both philosophy and theoretical physics, and had worked in a laboratory for microwave technology during the Second World War, was often concerned with the relationship between theoretical reflection, scientific investigation, and technological application. In his 1946 essay "Der geistige Mensch und die Technik" (The Intellectual and Technology) he had written: "a moment will come when our inheritance consists not only of natural or cultural history, but also of technological progress, i.e. the inheritance of progressive technological perfection" (Bense, "Der geistige Mensch" 39). While such "perfection" clearly promised certain benefits, for Bense it also implied the unwelcome prospect of total determinism; as a counterbalance, Bense posited the human intellect as a force that insisted on maintaining its autonomy in the face of such rigid predictability. However, he argued that this sort of intellectual freedom required not a rejection of technological progress and rationalization, but rather the attainment of a "higher, commanding level of rationality" ("Der geistige Mensch" 43).

Even in this relatively early work—his first scholarly publication after the Second World War—Bense already argued against the "two cultures" mentality that C.P. Snow would later describe, asserting that the intellectual must necessarily engage with science and technology, and must even play a role in shaping the world by technological means: "It is a condition of the intellectual that he also masters the world in which he exists, i.e. he wants to change it, he wants to be active in it" ("Der geistige Mensch" 41). Whereas many of Bense's German contemporaries voiced profound skepticism about the compatibility of modern technology and human progress in the years following the Second World War, Bense remained convinced that mathematics, natural science, and

technology, with sufficient guidance from the creative and critical human intellect, held the potential to shape a world that would be both more knowable and more livable.² In 1969 he wrote: “Only anticipatable worlds are programmable, only programmable worlds are constructible and inhabitable for humans” (*Einführung* 72). Despite the misgivings expressed about the deterministic effects of technology in his 1946 essay, Bense consistently argued for a synthesis of theoretical and practical, artistic and technological ambitions.

Bense’s *Brazilian Intelligence* thus serves as a showcase not only for certain features of the Brazilian intellectuals he encountered, but also for dominant currents in Bense’s own thought, and in the European manifestation of the Concrete poetry movement—a concerted international, modern movement that eagerly assimilated ideas from diverse fields such as architecture and industrial design, advertising, and communication and information theory, with the aim of creating the basis for a new, rational aesthetics. Like *Brazilian Intelligence*, many theoretical works by Bense and other Concrete poets took up various strands of postwar thought and culture and wove them into rough tapestries, constructions that sometimes reflected more on the cultural moment in which the movement emerged than on the poems themselves.

Thus rather than look to these texts in search of a key to the essence of Concrete poetry, this essay will consider the movement’s theoretical statements—primarily those of Bense and his fellow German-language poet Eugen Gomringer—as emblematic of the ideal of an international, rationalized, scientifically and mathematically informed modernity in which received aesthetic values could no longer be taken for granted. While these programmatic and theoretical texts at times proved unpersuasive or inconsistent, they nonetheless demonstrated a readiness or even eagerness to cross boundaries—both national and disciplinary—and to seek inspiration from scientific and technical fields in an attempt to articulate a new poetics suited to the modern age.

Even if their theoretical claims could not always be translated successfully into practice, the theory and practice of Concrete poetry in aggregate gave expression to an explicitly international, rationalized poetic program. These texts insisted on the possibility, and even the necessity, of a poetics guided by the

² On the relationship between technology, aesthetics, and human intellect in Bense’s work, see Dai; Herrmann; Jacob. For further comparison of Bense’s views of technology to those of his contemporaries, see Thiers.

theory and practice of information and communication, and they borrowed liberally from those scientific and technological discourses in assembling the elements of a postwar poetics.

Concrete Foundations: The Conception of an International Movement

Among the defining features of contemporary Brazilian culture in Bense's book were the new capital city Brasília and the Noigandres poets Augusto de Campos, Haroldo de Campos, and Décio Pignatari and their associates. Of the former, Bense wrote: "the urbanism of the new capital city makes possible a completely different poetic consciousness, a consciousness that also makes room for the artificial poetry of structural purity and concrete materiality of the word. [...] Design as a mode of shaping the external world that mediates between technological constructivity, artistic conception, and industrial production represents an essential part of the conception of the future civilization for the Brazilian intelligentsia" (*Brasilianische* 22). In this thoroughly designed city, Bense saw a dramatic example of poiesis in its broader sense, an act of making, production, form-giving, in which artistic creativity and technological mastery coincide. He found a more strictly poetic instance of such creativity in the works of the Noigandres group, who had published their "Pilot Plan for Concrete Poetry" in 1958, explicitly alluding in the title to architect and planner Lúcio Costa's 1957 "Pilot Plan" for Brasília. In the telegraphic syntax of their manifesto, these poets laid out a vision of poetry that was likewise modern and pragmatic: "direct speech, economy and functional architecture of verse. [...] Faster communication (problems of functionality and structure implied) endows the poem with a positive value and guides its own making. [...] The poem-product: useful object" (Campos 218–19). This integration of technological means and ends into an aesthetic program represented a clear point of intersection between Bense's thought and that of the Noigandres group.

The overlap was hardly coincidental; Concrete poetry had appeared nearly simultaneously in Brazil and Switzerland (as well as in Sweden) in the early 1950s, and links had quickly developed between the Brazilian and European representatives of these new poetic tendencies. In 1953, the same year that Augusto de Campos published his *Poetamenos*, generally regarded as the first work of Brazilian Concrete poetry, the Bolivian-Swiss poet Eugen Gomringer

published *konstellationen constellations constelaciones*, the quadrilingual book that introduced Concrete poetry *avant la lettre* to the German-speaking world (*konstellationen*).³ The following year, Gomringer published the manifesto “vom vers zur konstellation” (“from line to constellation”), in which he wrote: “today’s man wants to understand quickly and be understood quickly. [...] our languages are in the process of formal simplification. reduced, concise forms are taking shape” (*zur sache* 9).⁴ Like the later “Pilot Plan” of the Noigandres group, Gomringer’s manifesto positioned his new poetic techniques as forms suited to a modern age of practical, efficient communication.

Gomringer and Pignatari met in 1955 and settled on the “Concrete poetry” label in 1956, cementing the international connections that quickly became recognized as a defining feature of the movement. This internationalism had already been present *in nuce* in the multilingualism of both Gomringer’s *konstellationen* and Augusto de Campos’s *Poetamenos*; however, the explicit alliance formed by these poets, and the subsequent proliferation of multilingual anthologies, exhibitions, and book series, helped to establish the movement as an “übernational” (supranational) phenomenon, as Gomringer put it in 1956 (*zur sache* 19). In this, it represented a departure from the parochial nationalisms that had dominated during the war, and even from postwar movements such as the *Gruppe 47* (Group 47) that strove to recreate viable national literary cultures in the war’s aftermath. Concrete poetry, by contrast, was global in its ambitions, and the simple, minimalist texts characteristic of its early period frequently employed a basic vocabulary and skeletal syntax that rendered them accessible to readers with even minimal knowledge of Western European languages.

The simple, visually striking forms employed in these poems also invited comparisons to other, non-literary texts designed for international intelligibility, including both advertisements and the systems of signage associated with road, rail, or air travel. In aligning Concrete poetry with these utilitarian texts, the movement’s innovators on both sides of the Atlantic envisioned a form of poetry that was not only artistic, but also functional. This vision was expressed at times in the comparison of Concrete poetry to practices such as architecture that likewise combined artistic and pragmatic considerations. Indeed, Bense was

³ The book included works in French as well as the German, English, and Spanish of the title.

⁴ Throughout this article, the use or omission of capitalization in quotations follows the original texts.

referring specifically to the new architecture of Brazil when he wrote, in the words quoted above, that it integrates “the creative powers of art and reconciles them with the rational forms and contents of human intelligence” (Bense, *Brasilianische* 34). Gomringer drew a similar comparison in his 1956 essay “konkrete dichtung” (“concrete poetry”), writing: “as in architecture, so also in concrete poetry the visual form is identical to its structure” (*zur sache* 19).

However, as my discussion will demonstrate, such importation of programs and rationales from other disciplines often left a gap between the claims made for Concrete poetry in its manifestos and the reality of its poetic production. The pragmatic communicative purposes claimed by Bense, Gomringer, and others belie the profound ambiguities of some of the most successful Concrete poems; the proclaimed goal of efficient communication is complicated by a lack of clarity as to what exactly these poems are meant to communicate; the employment of information-theoretical paradigms likewise reveals certain incongruities between the theories of information developed by engineers and mathematicians such as Claude Shannon and Norbert Wiener and the literary works to which Bense and others attempted to apply them. But while the claims made in these manifestos and theoretical works often remained unfulfilled, the Concrete poetry of the 1950s and '60s remains notable for its spirit of techno-optimism crossed with irreverence, a movement that at once embraced modernist predecessors like Mallarmé, Apollinaire, and Stein, and sought to build its own experiments on new foundations in design and mathematical theories of information and communication. If some of these experiments proved less fruitful than others, they nonetheless illuminated both the potential and the pitfalls of a poetic program assembled from such a diversity of disciplines and aspiring to participate fully in the rationalized culture of postwar modernity.

Designing Language: Poetry for Airports

Poets and theorists such as Gomringer and Bense made frequent reference to the field of design not only as a formal influence on Concrete poetry, but also as a model for a new conception of literature that would play a positive and constructive role in society. As Bense wrote in his 1965 essay “Kunst und Intelligenz” (Art and Intelligence): “the convergences of art and technology, which are expressed most strongly today in design and industrial manufacturing,

constitute a part of the process of civilization which is global in nature, and accompanied by tendencies toward a balance between scientific and artistic principles of production” (*Ausgewählte Schriften* 351). Gomringer, in numerous essays and manifestos, made similar arguments for the potential of an artistic or literary practice informed by the aims and principles of design, referring to Concrete poetry as “an area of linguistic design with a close relationship to modern, scientifically and sociologically based tasks of communication” (*zur sache* 19). Here and elsewhere, Gomringer consistently cast it as a movement which—unlike more conventional literature—had the potential to intervene practically in the realities of modern life. In his 1969 essay “Poesie als Mittel der Umweltgestaltung” (translated into English in 1976 as “Poetry as a Means for the Structuring of a Social Environment”), Gomringer argued that poets “are in general not really on top of issues concerning the structuring forces of society such as industry, product management, retail stock level control, consumption of goods, advertising, industrial design, architecture, city planning, transportation, etc.,” before proceeding to describe the (ideal) Concrete poet as a more competent partner in the conception of a rational, modern world (“Poetry as a Means” 227).⁵

As noted above, one integral component of this modern worldview was an idealized vision of friction-free international communication. The multilingual magazine *konkrete poesie / poesia concreta*, which Gomringer began publishing in 1960, declared Concrete poetry to be “the aesthetic chapter of the universal language design of our time,” suggesting that the application of modern design to language had the potential to surmount linguistic barriers. Given these universalizing ambitions, it is hardly surprising that the airport became a leitmotif in Gomringer’s manifestos and essays, a symbolic site of international interaction and (ideally successful) communication. As early as his 1954 manifesto “from line to constellation,” Gomringer remarked: “the constellation is inter- and supernational. an english word may attach itself to a spanish one, how well the constellation fits at an airport!” (*zur sache* 11). In “das gedicht als gebrauchsgegenstand” (the poem as functional object), he wrote: “the point of reduced language is not the technique of reduction itself, but rather [...] the

⁵ Mark E. Cory’s translation of the title, while cumbersome, accurately conveys the fact that “Umweltgestaltung” in this context refers to the built environment, not to “environmental design” in an ecological sense.

greater mobility and freedom of the message, which should also be as general as possible, like the instructions at airports or on traffic signs” (*zur sache* 29). And in “Poetry as a Means” he explained: “my own conception of the ideal meeting place of our polyglot society was the airport. Airports I saw as those places in which only a limited number of necessary and unambiguous instructions, signals, and signs were tolerated, so that they could be understood by everyone, regardless of his mother tongue. The airport played the role of an ideal model” (“Poetry as a Means” 229).

These comparisons are illuminating: while they highlight the optimistic, international aims of the Concrete poetry movement—or at least of that portion of the movement that shared Gomringer’s ambitions—they also assert the similarity of Concrete poems to purely functional forms of communication such as airport or traffic signs, and additionally (perhaps more problematically) suggest that Concrete poems, like those signs, might merely induce a particular, predetermined response, not inspire interpretation or critical reflection. This impression is reinforced by Gomringer’s assertion, in his 1956 manifesto, that Concrete poetry can communicate either “unreflected” or “reflected information,” with the former being a sort of linguistic signal that can only produce a primarily sensory response, “as if to a command” (*zur sache* 19). Seven years later he returned to this theme, citing a “formal relationship” between his constellations and the concise information provided by certain sorts of non-aesthetic texts that “prompt us to behave in certain ways” (*zur sache* 45). It is true that Gomringer presents this characterization as an analogy; he does not claim that Concrete poems are *actually* intended as orders. Nevertheless, in this analogy Gomringer imagines a reader whose role is fundamentally passive, or at best reactive, subjected to stimuli that permit only a narrow range of responses.

In addition, while this future-oriented vision of globally intelligible communication offered an alternative to the limitations of a nationally conceived literature, in Gomringer’s rendering it also betrayed a lack of interest in engaging with Europe’s recent past. In “Poetry as a Means,” for instance, Gomringer complained that poets had not yet taken their rightful place alongside other designers at work on the construction of a new society: “Curiously, the poets, because of a preoccupation with novels, short stories, and the integration of the experiences of recent history [*Vergangenheitsbewältigung*], failed to recognize that developments had been underway since the Twenties which could have

permitted the craftsman of language to join the international team of creative builders [*Gestalter*]” (“Poetry as a Means” 230). In a later essay about Heimrad Bäcker’s book *Nachschrift* (Transcript)—a work that employed Concrete methods in its confrontation with the Holocaust—Gomringer would write: “We hadn’t reckoned with the recent past, which we considered to be finished, with National Socialism, with its terrible language. In our pragmatic euphoria, Coca Cola and ping pong played the role of new milestones” (“Wissen Sie” 9). Even here, though, the extent of Gomringer’s self-criticism is limited, and he still displays an unmistakable bias in favor of formal innovation rather than historical reckoning. The clear import of these passages is that working through the past is only a distraction from the true responsibility of writers to contribute to the planning of the future. As Oliver Herwig writes: “Even in retrospect, Gomringer remains fully on the plane of ‘universal design’ and the idea of changing society by changing the [built] environment, an idea adopted from the historical avant-garde” (21). This relative indifference to historical concerns has prompted criticism from scholars such as Carole Anne Taylor, who accuses Concrete poetry of restricting itself to “celebratory, affirmative values, a pleasure with the tendency to turn away from the real world’s pain,” concluding that “such poetry cannot give birth to a sustained, focused criticism of personal and social malaise” (234).

To be sure, a utopian and future-oriented view need not be wholly incompatible with a reckoning with the past. Even within the circles of Concrete poetry, some poets took a more historically informed approach to the task of designing language. As Anna Katharina Schaffner writes of Augusto de Campos and Gerhard Rühm:

Campos regards the recuperation of avant-garde practices as a re-establishment of contact with a project which has been prematurely terminated by historical forces. This is a notion he shares with the poets of the Austrian Wiener Gruppe, in particular Rühm, who feels that the group was tying up loose ends, taking up something which had been suffocated prematurely by external forces beginning with the Nazis’ degenerate art crusade. They were reviving something which was not yet over but temporarily stifled. (109-10)

While Gomringer's reference to "interesting developments" that "had been underway for a long time, since the Twenties" neglects to acknowledge that notable rupture, Schaffner's analysis suggests that the reanimation of the spirit of the interwar avant-gardes can be seen, at least in some cases, as an act of protest against the historical developments that destroyed them.

Still, historical myopia is not the only shortcoming of Gomringer's pragmatic poetics. Even if his relative disregard for history is set aside, questions remain about the exact nature of the relationship between his poetic program and the principles of design to which he compares it. While Gomringer at times cites the airport approvingly as an "ideal model," elsewhere he argues that the new (i.e. Concrete) poem can "influence everyday language through the exemplary status" of its rules, suggesting that Concrete poetry aims to inform everyday linguistic practice, not the other way around (*zur sache* 10). Even the title of his 1969 essay ("Poetry as a Means") indicates that the poet should play an innovative, designing role; but if these ideal forms of communication already exist at the airport, then it is not clear what function remains for the poet-cum-designer.

Perhaps most fundamental, though, is the question of whether the program laid out in Gomringer's manifestos actually corresponds to any significant degree to the works of Gomringer himself or of other Concrete poets. To take an explicitly airport-related example, Gomringer's poem "worldwide" pairs the German prepositions "von" (from) and "zu" (to) with English nouns, beginning "von airport / zu airport // von safety / zu safety," but ends with the linguistically indeterminate "von knall / zu knall // von fall / zu fall" (1970-1972).⁶ The appearance of the German "knall" (bang, crack) suggests that the "fall" in the final lines could be read as a German word as well, yielding "from case / to case"; however "von fall / zu fall" could alternately be read, either in German or in English, as "from fall / to fall" (in the sense of downward motion). In addition, these lines could be taken as an implicit allusion to the German expression "von Knall auf Fall" ("all of a sudden"). In contrast to Gomringer's manifestos, then, this text associates the polyglot airport not with clear and unequivocal

⁶ The end of the poem is changed without comment in Gomringer's *Gesamtwerk* (*Complete Works*) to read "von knall / zu knall // von dir / zu mir" ("from crack / to crack // from you / to me"). This new ending suggests an entirely different reading of the airport, as a site of connection rather than confusion (*Gesamtwerk I* 130).

communication, but rather with encounters between languages from which confusion can result.

The ambiguities created by “worldwide” are hardly the exception in Gomringer’s work, or in Concrete poetry more generally. Poems such as Gomringer’s famous “schweigen” (silence) or Heinz Gappmayr’s “weiss” (white) are far less concerned with the unambiguous communication of a concept or command than they are with the semiotic play that makes any uncritical identification of sign and meaning impossible (*konkrete poesie* 50, 58). Even an exemplarily simple constellation such as “est”—which consists solely of the word “est” repeated nine times, arranged in three rows and three columns—equivocates between the two meanings of the French “est” (“is” or “east”), allowing interpretations such as “east is east / east is east” or “east is east / is east is” or simply “is is is” (*Gesamtwerk I* 16). Whereas a single “est” might well offer the clarity required in a road sign, Gomringer’s repeated “est” would be less suited to the purpose.

Certainly many of the poems composed by Gomringer and others bear a passing resemblance to the signs posted in airports, or to advertising texts and logos, as many authors have noted. The use of a simple, often repetitive vocabulary, the employment of sans-serif fonts such as Futura and Helvetica, and the arrangement of words in the two-dimensional field of the page rather than along the one-dimensional axis of the line are all characteristics that Concrete poetry shares with commercial or industrial design practice. But Gomringer’s theoretical texts fail to account for the significant differences between the ideal of clarity (however inconsistently realized) in advertising and airport signage and the obstacles to communication often encountered in Concrete poetry. If design was one ideal model for Gomringer’s poems, other models are required to supplement this account.

Communicating Concrete: The Poem as Means of Communication

In addition to invoking design and architecture as examples of a successful marriage of artistic creativity and pragmatic, scientifically informed productivity, Concrete poets including Gomringer, Bense, and the members of the Noigandres group made frequent reference to recent developments in computing, cybernetics, and theories of information and communication associated with

figures such as Claude Shannon and Norbert Wiener. While the applications that they found for these theories in their poetic and theoretical works varied, the essence of their insight was quite simple: If mathematicians and engineers had developed new, mathematical models for understanding language, perhaps these same models could be applied to the study or even the production of literature, offering an alternative to the subjectivity and imprecision that often plagued literary works and scholarship. As Bense wrote in his 1969 *Einführung in die informationstheoretische Ästhetik* (Introduction to Information-Theoretical Aesthetics): “Only a rational-empirical, objective-material conception of aesthetics can do away with the general speculative babble of art criticism and put an end to the pedagogical irrationalism of our academies” (*Einführung* 8).

This rejection of academic “irrationalism” is perhaps best understood in the postwar context that Utz Maas and Dieter Wunderlich described in 1974: “the demand for the verifiability of scientific claims was the most effective way to free science from fascist volkishness” (38). For Bense, an objective aesthetics thus promised not only progress toward a more rational future, but also an escape from the irrational obfuscations of Germany’s recent past. However, just as Concrete poems were not actually airport signs or (usually) advertisements, they also were not telegrams or (usually) computer punch cards. As in the former cases, then, so also in the latter it will be necessary to draw a distinction between the rhetorical employment of borrowed terminology in the manifestos of the Concrete poetry movement and the actual descriptive power of that terminology with respect to particular poems.

The movement’s manifestos evince no lack of enthusiasm for these new theories and technologies of information, communication, and computing. In “from line to constellation,” Gomringer already emphasized that the function of his new poetic form was communicative rather than (politically or emotionally) expressive: “by means of its modern sign character writing has adapted itself to the necessity of faster communication. [...] the constellation [...] does not name the ‘all too human’ social and erotic problems” (*zur sache* 9-11). The Noigandres poets’ 1958 “Pilot Plan” also rejected “a subjective and hedonistic poetry of expression,” while connecting their poetic program to new technological developments: “Cybernetics. The poem as a self-regulatory mechanism: feedback. Faster communication [...] endows the poem with a positive value and guides its own making” (Campos 219). And Bense, in his 1969 *Introduction to*

Information-Theoretical Aesthetics, wrote: “What Eugen Gomringer calls the ‘Concrete constellation’ or Pierre Garnier calls ‘*textes dans l’espace*’ or ‘*spatialisme*’ is anticipated in the communications texts of our urbanistic systems” (*Einführung* 134–35). As a buzzword, at least, “communication” clearly played a significant role in the project of Concrete poetry.

What exactly this “communicative” function would amount to in practice, though, was another question. A widely accepted technical definition of “communication” had been proposed by Shannon in his 1948 article “A Mathematical Theory of Communication,” which laid the groundwork for modern information theory and made an impression on modern poets, as well: “The fundamental problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point” (Shannon 379). Shannon’s concern was explicitly limited to the technical aspects of communication; he laid out his argument with reference to technologies such as the telegraph and the radio, and noted: “Frequently the messages have meaning; that is they refer to or are correlated according to some system with certain physical or conceptual entities. These semantic aspects of communication are irrelevant to the engineering problem” (Shannon 379). For Concrete poets, the latter assertion represented both an opportunity and a challenge. On the one hand, it offered a mathematical, scientific rationale for considering language from a standpoint that likewise emphasized its “material” characteristics, such as the distribution and arrangement of letters or sequences of letters, rather than its “intentional” or semantic features—a viewpoint well suited to Concrete poetry, which “in the ideal case used language not only as a bearer of meaning, but in addition and perhaps more emphatically as an acoustic and visual act” (*Einführung* 95). On the other hand, it raised the question of what exactly Concrete poetry was communicating: Clearly it was concerned with something other than the purely technical task defined by Shannon, but if it also assigned a subordinate role to meaning, then what was the nature or aim of this “communication”?

Augusto de Campos posed this question in a 1957 newspaper article, which began: “Instigating question: What does a concrete poem communicate?” As Jamie Hilder notes, this question was a provocation in itself, drawing “the reader’s attention to something else he feels might be odd: the idea that a poem might communicate rather than express” (Hilder 40), and thus framing poetry in

terms more commonly associated with technology than with literature. The Noigandres poets offered one possible answer to Campos's question in their "Pilot Plan" the following year, holding: "The concrete poem is an object in and of itself, not an interpreter of exterior objects and/or more or less subjective feelings. [...] It deals with a communication of forms, of a structure-content, not with the usual message communication" (Campos 218). Gomringer similarly wrote in his 1956 "concrete poetry" manifesto that the poem is not "an outlet for all sorts of feelings and thoughts," and "content is only interesting for the concrete poet when its intellectual and material structure proves to be interesting and can be linguistically elaborated" (*zur sache* 19). Both manifestos not only link structure and content but subordinate the former to the latter; the task of communication, as far as Concrete poetry is concerned, is focused on form.

But what exactly does it mean to communicate form rather than content? One answer proposed in the "Pilot Plan" is that Concrete poetry is a "phenomenon of metacommunication" (Campos 218), communication *about* communication. To take this assertion one step further, it might be suggested that communication is actually not the *function* of these poems, but rather their true *content*, and that their apparent content (silence, an apple with a worm, coca cola) is merely a pretext. This understanding would be particularly compatible with the tendencies in Concrete poetry (especially, but not exclusively, in its later years) to make communication increasingly *difficult*, a subgenre that Marjorie Perloff, Lori Emerson, and others have characterized as "dirty" Concrete poetry, in contrast to the "clean" works of Gomringer, the Noigandres group, and others in the 1950s and '60s (Perloff 218; Emerson 87–128). For instance, typewriter-based works such as Claus Bremer's "lesbares in unlesbares übersetzen" (rendering the legible illegible) or Diter Rot's "Advertising my typewriter" use overtyping to render the text, as Bremer's title puts it, illegible.⁷ As acts *of* communication understood in conventional terms, both poems are essentially failures, being less legible than an average typewritten text; as texts *about* communication, though, Bremer's and Rot's poems both succeed in foregrounding the tension between the orderly, mechanical process of textual production for which the typewriter is designed and the other, less orderly purposes to which it can be put. The texts might even

⁷ Both poems appear in English in Emmett Williams' anthology (Williams); the German original of Bremer's poem is reproduced in Gomringer's anthology (*konkrete poesie* 29).

be seen as poetic responses to or refutations of Martin Heidegger's criticism of the typewriter in his lectures on Parmenides: "Mechanical writing deprives the hand of its rank in the realm of the written word and degrades the word to a means of communication" (Heidegger 81). Read in this light, these poems could claim a metacommunicative effect, but they would hardly embody the sort of technologically optimistic conception of communication that Gomringer and the Noigandres poets invoked in their manifestos.

Quantifying Concrete: Bense's Information-Theoretical Aesthetics

A more elaborate, if not airtight, attempt to articulate the relationship between Concrete poetry and communication is found in Bense's theoretical works, particularly the 1965 *Aesthetica* (a collection of four previously published volumes), as well as the aforementioned *Introduction to Information-Theoretical Aesthetics*. While some features of Bense's aesthetics were particularly tailored to Concrete poetry, the ambitions of his project were grander, as he aimed to provide a quantitative framework for aesthetic judgments in general. As he wrote in the introduction to the third volume of *Aesthetica*: "The particular objective is to replace the subjective or psychologically colored thesis of the existence of an aesthetic value or the existence of an aesthetic quality with the formulation of aesthetic information, that is, with measurable functions of distribution and arrangement" (*Aesthetica* 212).

Bense's approach was characteristically omnivorous and eclectic. As he wrote in his text "konkrete poesie" ("concrete poetry"), the new, empirical "text theory" considered a text from three primary perspectives: topological (i.e. with respect to the arrangement of letters and words on the page), semiotic (in the sense of C.S. Peirce), and statistical. The last of these three perspectives was derived from postwar developments in the theory of information and communication. After briefly engaging with Wiener's theory of cybernetics, Bense had discovered Shannon's theory of communication, which provided him with a quantitative model for understanding language and, by extension, literature. Bense also engaged with other theorists, such as Wilhelm Fucks and Abraham Moles, who were likewise attempting to develop quantitative methods of aesthetic analysis (Moles; Fucks; Bense, "Existenzproblem"; Bense, "Klassifikation"). While the merits of these methods may certainly be

questioned, the undertaking itself exhibits the aspiration toward a synthesis of aesthetics and scientific rationalism that was also expressed in the manifestos discussed above. As reinterpreted by Bense, Shannon's information theory provided a basis for the expression of the aesthetic characteristics of a text in empirical terms, based on the degree of novelty or innovation that it contained—a standard that lent itself particularly well to the analysis of avant-garde and experimental works.

As early as 1960, Bense confidently proclaimed the superiority of this statistical approach, writing: "It is known that insofar as logic and grammar are the foundation of the natural or trivial communicative capacity of language, nonetheless it is the statistics of the letters, syllables, and words, i.e. their frequency distribution, that constitutes the aesthetic states" ("Movens" 126). He reaffirmed this focus on the discrete, material properties of the text in the 1971 essay "Die Gedichte der Maschine der Maschine der Gedichte: Über Computer-Texte" (The Machine Poems of the Poem Machine: On Computer Texts), writing: "We speak [...] about a *material* concept of text and material text theory. This makes it easier to apply mathematical procedures. The diversity of the words no longer needs to be indicated by their meaning, but rather by their quantitative or numerical property, e.g. by their syllable count or their length, that is by the number of letters that they contain" (Bense, "Die Gedichte der Maschine" 77). In short, the aesthetic state of a text in Bense's view is a function of its statistically measurable novelty or innovation. As he wrote in his 1961 book *Modelle* (Models): "The aesthetic state of a text depends on the statistical surprises in the materials employed (words, etc.) and in their distribution, i.e. on the deviation of particular stylistic characteristics from conventional values" (*Modelle*). The more statistically abnormal a text is, the greater the quantity of "aesthetic information" it contains.

But what exactly did Bense mean by "aesthetic information," and how was it distinguished from information of other sorts? One attempt at a definition can be found in his 1959 essay "Textästhetik" (Text Aesthetics), which was incorporated into the fourth volume of his *Aesthetica*: "A major problem of text theory, and of statistical aesthetics as such, is [...] the distinction between the semantic and aesthetic information that a text yields." Whether a given text functions aesthetically or merely semantically is, according to Bense, "a question of comparative analysis and interpretation that takes into account both the

statistical values and the conventional norms” (*Aesthetica* 291). The semantic function of a text is, as would be expected, a matter of conveying certain meanings from one person to another. The aesthetic information that the text contains, by contrast, is determined by the realization of a particular material state that differs in some way from statistical norms (*Aesthetica* 293). While the same semantic information could be encoded in a variety of ways, Bense argued, aesthetic information was tied to the specific realization of the work.

This clarifies at least one thing that aesthetic information is *not*: It is not the content of a given utterance, which could be expressed equally well in different words. However, it does not clarify how aesthetic information differs from statistical measures of information such as Shannon’s when applied to a specific instance such as a random string of letters. For Shannon, such a string contains a high amount of information, because the determination of each individual letter is independent of all the others. For Bense, however, the conclusion that a random string of letters contains a high amount of *aesthetic* information is hardly desirable, since it would suggest that such a text contains more aesthetic information than, say, a Concrete poem. Thus the aesthetic information that a given text conveys must be distinguished, on the one hand, from its semantic information, but, on the other hand, from information as defined in Shannon’s purely technical sense. This process of elimination could well leave the reader wondering whether the remaining formal or structural properties of a text—those that do not count as information in either the semantic or the Shannonian sense—are rightfully identified as information at all.

In addition, as Haroldo de Campos notes, Bense is not wholly consistent in his application of Shannon’s theory. Specifically, Bense equivocates at times between Shannon’s definition of information and Wiener’s, which differ from each other in fundamental ways. In Shannon’s terms, the greater the entropy of the information source, the more information must be transmitted to correctly reproduce the message at the destination. In Wiener’s terms, by contrast, a system in a more ordered state is considered to contain more information, whereas a system in a more entropic state contains less (60-67). For Shannon, a set of Scrabble tiles contains more information when jumbled together in the box; for Wiener, it contains more information when the tiles are neatly arranged into words on the board at the end of the game. Campos notes that “Bense uses ‘information’ and ‘entropy’ to some extent in Wiener’s sense of the terms” in the

second part of his *Aesthetica*, but “in other essays resorts to Shannon’s concept of *information*, which, as has been seen, is formulated from a different point of view from that of [Wiener’s] cybernetics. As, for example, when he studies the principle of *repetition* in the work of Gertrude Stein” (Campos 232).⁸ This tension is reflected in Bense’s introduction of redundancy into his theory as a complement to aesthetic information: “The necessity of redundancy for aesthetic perception instructs us beyond doubt that not every improbable distribution is as such an aesthetic one” (*Aesthetica* 216). Whereas maximum entropy is identified in Shannon’s theory with maximum information, Bense here explicitly rejects this identification as it pertains to aesthetic information, preferring to assign a positive value to redundancy as well.

Redundancy or repetition thus requires its own category in Bense’s information-theoretical aesthetics. Having defined the aesthetic state of a text in terms of the “statistical surprises” that it contains, Bense faces the challenge of accommodating this theory to the works of authors such as Stein, as well as those of numerous Concrete poets, in which repetition plays a fundamental role. To resolve this dilemma, Bense incorporates redundancy into his aesthetics as the locus of style: “redundancy reduces the quantity of aesthetic information in the process of its realization, and thus diminishes the initial originality, but in this way it can develop this very aesthetic information into a stylistic principle. Style in art depends on the redundancies of the initial aesthetic information. Only what is redundant in it can be transformed into style” (“Existenzproblem” 10). While the introduction of this category might appear to be more an ad hoc concession to the realities of modernist and avant-garde literature than a logical extension of information theory into the realm of aesthetics, it should be noted that redundancy is not without its positive function in Shannon’s information theory; as Shannon writes, “by sending the information in a redundant form the probability of errors can be reduced. For example, by repeating the message many times and by a statistical study of the different received versions of the message the probability of errors could be made very small” (Shannon 410). The

⁸ Campos’s interpretation is supported by passages such as the following in Bense’s *Aesthetica*: “But information means exactly that measure for the degree of order that corresponds to an improbable distribution, a selected, unusual, original distribution, as seen in its highest degree in an artwork” (*Aesthetica* 152). Despite drawing heavily on Shannon’s definition of information elsewhere, Bense here gives an account that clearly corresponds to Wiener’s.

more redundant the message, then, the greater the probability that it will be correctly received. Bense's borrowings from Shannon's aesthetic theory thus enable him to define two categories of aesthetic work: one rich in entropy, or "aesthetic information," and the other rich in redundancy, which he identifies with style. Just as communications systems require redundancy to ensure that a message is received correctly, aesthetic works require redundancy as the basis of their style.

Gomringer likewise addressed the role of redundancy in Concrete poetry. In his essay "gedichttechnik" ("poetic technique," or "poem technology"), he observed:

one constructive principle of the constellation [...] is the immediate repetition of a word. [...] if the passage of time is to be removed from the written poem, to be absorbed, then such a word must be visible in a large number at the same time—as a mass phenomenon. for instance, in order to give the german word "snow" a memorable expression, it is necessary to use this word—this sign—multiple times and/or in a balanced way and in a particular typographic arrangement. (*zur sache* 16)

Many other Concrete poems employed repetition to establish a background against which a single variation stood out: Gomringer's own "schweigen" (silence) and Reinhard Döhl's "apfel mit wurm" (apple with worm) are two of the best known examples, but more can easily be found in any Concrete poetry anthology (see my forthcoming article "Information Poetics: Communication and Combinatorics in Concrete Poetry" in *Culture, Theory and Critique*). But Gomringer's comment suggests that even in the absence of the isolated variations in these poems, the principle of repetition itself might play a communicative role that could be understood in information-theoretical terms, albeit somewhat counter to the main thrust of Bense's theory; rather than establishing a dichotomy between semantic and aesthetic information, and supplementing the latter with a notion of style derived from redundancy, we might simply say that redundancy is an effective, though not an efficient, tool for communication. In the information-saturated world that Gomringer described in 1963—"the overabundance of printed and spoken information that presses in upon people

today” (*zur sache* 45)—redundancy, more than entropy, could ensure that a poem’s message was received.

Concrete Conclusions

While the terminology of information theory can prove illuminating in certain aesthetic contexts, its usefulness has its limits, as indicated by the numerous accommodations that Bense made in adapting it for his aesthetic system. In the fourth part of his *Aesthetica*, Bense wrote that the “*artwork* is thus understood as a *message*. More precisely as the *bearer* of particular, namely aesthetic, *information*” (*Aesthetica* 265). However, when faced with Bense’s suggestion that aesthetic information, in contrast to semantic information, might convey “not ‘meaning’ but rather ‘realization,’” and his identification of “two classes of communication, [...] informative and fabricative” (*Aesthetica* 293), one could reasonably ask whether his theory has left the domain of information and communication altogether, and would perhaps be better described simply as a statistical, rather than information-theoretical, aesthetics.⁹ The American mathematician George D. Birkhoff, for instance—whose work Bense discussed—had argued for the possibility of determining a numerical measure of the aesthetic value of a given work based on the ratio of its order to its complexity (Bense, *Einführung* 104; Birkhoff, “A Mathematical Approach”; Birkhoff, “A Mathematical Theory”). Birkhoff’s approach favored traditional aesthetic criteria such as harmony in music or the musical quality in poetry, so it is only reasonable that Bense looked elsewhere for a paradigm better suited to the analysis of experimental or avant-garde works—and that he saw potential in Shannon’s equation of information to entropy. However, the pragmatic communicative functions with which Shannon was primarily concerned proved less relevant to Bense’s aesthetic interests, and it is far from clear that these borrowed concepts ultimately provided Bense’s aesthetics with the firm empirical basis he desired.

Whatever its shortcomings, though, Bense’s attempt to construct an aesthetic theory based on innovations in the theory and technology of communication remains historically important as a manifestation of the rationalizing principles

⁹ Bense even concedes, “The questions of communication appear only at the borders of this information aesthetics” (*Aesthetica* 124).

that it shared with the manifestos of Concrete poetry. While the dominance of this statistical approach to aesthetics was never as secure as Bense's tone suggested, the theory that he developed in those works extended the optimistic, positivistic program of those manifestos, aspiring to a synthesis of the aesthetic and the statistical. Likewise, while Concrete poetry did not evolve into a new universal language or set a new standard for airport signage, this does not detract from the movement's historical significance. The poetic statements that these poets assembled—borrowing liberally from the scientific, technical, and commercial discourses of the postwar era—are perhaps best read not as articulations of a clearly conceived program, but rather as part of a project that sought to carve out a role for poetry in an age of modern technology and media.

Even as Concrete poets expressed the desire to adapt their poetry to the technical standards of the day, their works transformed technical developments and discourses into the foundations of a new poetics. Rather than see the movement's manifestos and theoretical statements as hubristic promises that its poetry could never keep, we might do better to see both the poems and the programmatic texts as two parts of the same project, which claimed a place for poetry in a technologically saturated age. In that sense, the failure of Concrete poetry to fulfill the aim set out for it in the manifestos, and its stubborn refusal to be reduced to a practical and efficient means of communication, could be counted as a victory.

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