

A Mirror on the Mind: Stevens, Chiasmus, and Autism Spectrum Disorder

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1. INTRODUCTION

DISCUSSIONS OF Wallace Stevens' poetry often leverage a contrast between "sense" and "nonsense" (Winters, Kenner, Ehrenpreis, Rieke, etc.) that can be stated more technically as a distinction between semantic concepts and non-semantic percepts and patterns. Language, of course, involves both, but most of the time we pay little or no conscious attention to the non-semantic information of an utterance; we look right through it to the conceptual content it encodes. Poetry, and Stevens' poetry especially, delays such automatic semantic processing by foregrounding language's perceptible dimensions—its visual-spatial arrangement of letters, words, lines, and stanzas on the page; its audible rhymes, alliterations, and assonances; its kinesthetic rhythms; and so forth—fully as much as its conceptual dimension. In Stevens, this "dominance of pattern . . . over the particulars of sense" works to "dissolve certain normative notions or schemes of reality while gesturing, ultimately, towards something that lies beyond them" (Rosu, "Theoretical" 212; "Images" 178). That something, Stevens critics by and large agree, can be specified as the "prehistorical, preconceptual, and prelinguistic" dimensions of human cognition itself (Dechand 1116), in particular "the manner in which experience is actually *sensed*, in the blaze of all of its affect and meaning-laden intensity," prior to its translation into language-mediated conceptual *sense* (Sahner 59).

Strikingly, these literary-critical characterizations of the experience of reading Stevens' poetry echo the emerging understanding of language-processing differences in autism spectrum disorder (ASD).¹ Many individuals with ASD are prone to process *any* linguistic sequence as if it were poetry, dedicating heightened attention to an utterance's perceptible features and thereby delaying and sometimes compromising their ability to decode its semantic content and pragmatic function (see Savarese). To better understand the "enhanced perceptual processing" experienced both by readers of Stevens and by readers with ASD (Järvinen-Pasley et al.), the following essay examines Stevens' pervasive but underappreciated

deployment of chiasmus at every level of linguistic and poetic structure. The analyses here supplement those offered by Samuel Jay Keyser in his 2011 study of “Stevens’ use of reversal in phonemes, morphemes, words, letters, and images” (234), and my arguments extend his by supplying a cognitive-neuroscientific explanation, based in research on ASD and the reading brain, for the chiasmic phenomena in question. This kind of explanation may contribute to a more exact characterization of Stevens’ “non-sense” poetics and, reciprocally, to a deeper appreciation of language-processing differences in ASD.²

2. ASD, CHIASMUS, AND THE NON-SEMANTIC SUBJECT OF (STEVENS’) POETRY

Though explicitly concerned neither with ASD nor with chiasmus, Charles Altieri’s recent study of “Aspect-Seeing and Stevens’ Ideal of Ordinary Experience” nevertheless offers pointed openings upon both topics. Early in the article, Altieri underscores Stevens’ almost wholesale inattention to “actual social relations” in his poetry:

Stevens pursues a transpersonality in poetry derived from the power to occupy imaginatively what he calls the center of human valuing. But the transpersonal is not social, at least in the sense that the social involves taking into account a plurality of voices and the need for endless negotiation. For Stevens, there is no talk of community, and no mention of the kinds of compromises and recognitions of alterity that are required for communal social life. (79)

Originating with Stevens himself (see *L* 352), this astute distinction of the transpersonal “center of human valuing” from the endlessly negotiated and other-inflected “social life” might just as easily derive from research on ASD, a very broad spectrum of neuro-behavioral differences whose symptomatology includes deeply human (or “savant”) sensitivities, interests, and abilities coupled with selective difficulties in performing “the kinds of compromises and recognitions of alterity that are required for communal social life.”³ In the poet’s case, this “turn away from others, which has been criticized throughout Stevens’ reception history,” has frequently been explained in terms that, with only slight adjustments, might likewise characterize the verbal experience of many individuals with ASD:

the actual world that his poetry escapes from, or which he escapes from *in poetry*, is one in which communication is experienced as distorted, superficial and inauthentic, where the individual is at the mercy of languages that are radically hostile to himself. In this sense, the self-orientation or self-enclosure of

Stevens' poetic language . . . can be understood as a response to the need to assume a distance, and create a sense of otherness, in relation to the languages of the social and public sphere. (Holander 18)

For Stefan Holander, Stevens' signature "abstraction" is thus highly "ambiguous" in function, serving at once to "captur[e] the eidetic or cognitive essentials of reality"—which may be roughly equivalent, in sum, to Altieri's "transpersonality"—but only at the cost of a "fateful and falsifying closure to the actual world" of everyday language and social communication (4).

Holander suggests that "Both implications" (4)—deep access to "essentials" of the human mind and a correlated dis-ease with "inauthentic" or normative discourses of the social milieu (18)—"are closely tied to [Stevens'] sense of the material aspects of poetic language and [his] complex figurative and kinesthetic use of inherited poetic device" (4). His point is neatly illustrated by Altieri, whose analysis of "An Old Man Asleep" hinges, apparently unwittingly but happily enough, on Stevens' strategic use of chiasmus. For Altieri, the poem's genuine submission to elemental process *and* its abiding recognition of the individual subject (*qua* "transpersonal" subject) are *both* coded in the final line, the one in its semantic reference, the other in its non-semantic sound-structure. Though Altieri does not remark the chiasmus that organizes the line—"The river [A] motion [B], the drowsy motion [B] of the river [A] R" (CPP 427)—he evidently responds to it, for his argument turns upon the /aU/ diphthong in "drowsy," that is, upon the chiastically framed and foregrounded centerpiece of the line:

In due accord with mortality, the last line puts the imagination back into identification with sheer process. The individual returns to the elements of which he is part. But not entirely. In the process of focusing on the river R (the river of the condition of being), there is a strange excess in the sound, especially in how "drowsy" in the middle of the line seems almost created to bring out the long *o* sound of motion, thus bringing the visual river into another dimension. Even when the self is reduced almost to the object, it can elicit something excessive and at least somewhat distinctive. (85–86)

The chiasmic structure confirms that the line was not "almost" but *certainly* and *effectively* created for just this "excessive" assonantal disclosure of something "distinctive[ly]" subjective: specifically, the mental act whereby an auditory image is elicited from and superposed upon a visual image. Altieri characterizes this synesthetic performance in terms of a "freedom" and "moment of playfulness that runs counter to the bleakness of

the elemental and objective picture" (86), but the perceptible "excess in the sound" (85) is more directly a result of Stevens' "complex figurative and kinesthetic use" of chiasmus, a self-oriented and self-enclosed structure that originates not in objects of perception but in "eidetic or cognitive essentials" native to the perceiving mind (Holander 4).

Altieri and Holander thus make common cause with the many critics who have argued that Stevens' "fascination" with sonic structures "suggests . . . the presence of another kind of meaning altogether, not the conceptual one usually identified with words" (Nicholson 63) but rather "a non- or supra-verbal" intuition that is more like a "physical perception" than an idea (70, 64), or, to put it another way, more like an embodied experience than a disembodied reference.⁴ This "alternative mode of intellection" based in "feeling, sensation, non-abstract meanings" (65) may fruitfully be compared to the "metaphorical" mind of Lakoff and Johnson, which constructs *all* its meanings, referential and otherwise, from pre-conceptual "image schemas" distilled from felt, sensational, concrete experience in the body. In the words of one of the theory's co-creators, "An image schema is a recurring, dynamic pattern of our perceptual interactions and motor programs"; "consist[ing] of a small number of parts and relations, . . . it can structure indefinitely many perceptions, images, and events" (Johnson xiv, 29). The schema of bilateral symmetry that structures chiasmus—*AB:BA*—provides a salient example. Naturally motivated by the bilateral symmetry of our bodies and especially our nervous systems,

This schematic understanding operates across modes of perception, activity, and imagination. We grasp this schema of bilateral symmetry when we touch our toes, when we balance the volume of stereo headphones, when we do jumping jacks, when we grasp the handlebars of a bike, when we look both ways before crossing the road, when we look through binoculars, when we feel the ocean on our legs, when we pry or push two things apart, when we form the mental image of a tree, and when we hug someone. (Turner 70)

We employ the very same schema, Mark Turner, a founding father of cognitive literary studies, argues, when we produce or recognize bilateral symmetry in discourse—a.k.a. *chiasmus*—as in I. A. Richards' title "Harvard Yard in April: April in Harvard Yard" (cited and analyzed by Turner) or, equally if somewhat less obtrusively, the final line of "An Old Man Asleep" (cited and analyzed by Altieri). As the productive choices of Richards and Stevens and the interpretative emphases of Turner and Altieri imply, when we *do* encounter this embodied, pre-conceptual schema in discourse, it more or less forcefully arrests our attention upon an inherently non-semantic relation of parts, which is to say, a *pattern*, within the discourse.

As the independent but largely convergent arguments of Altieri and Holander further attest, redirecting attention from conceptual meaning to perceptual pattern promotes a mode of language processing that bears intriguing parallels to what is known in ASD research as “enhanced perceptual processing of speech in autism” (Järvinen-Pasley et al.). This well-supported hypothesis holds that, compared to control subjects without ASD, individuals with ASD perceive the non-semantic material aspects of language more easily but orient toward its conceptual meaning with greater difficulty. As Ralph James Savarese has suggested, the same hypothesis can just as readily be formulated with the obverse emphasis and implication: compared to individuals with ASD, control subjects without ASD appear to orient toward the conceptual meaning of language more easily but to perceive the material aspects of language with greater difficulty. Thus, as Savarese observes, “the instrumental use of language depends on ignoring, at least to a degree, the sensuous materiality of the signifiers. Nonautistics don’t fully listen to what they hear: they convert the auditory stream into something useful, which is to say symbolic” (Savarese and Zunshine 26). To defeat this instrumental semantic bias of most non-autistics, Savarese writes, poetry “purposefully calls attention to the sensuous materiality of its signifiers” (Savarese 395), thereby promoting readers’ momentary experience of a generally neglected dimension of language processing that many autistic individuals experience in a more robust and ongoing way.

Judging from critics’ self-reports, Stevens’ verse dependably achieves this defamiliarizing poetic purpose. In Stevens, as Holander argues, quite independently of the research summarized in the foregoing paragraph,

Language may both be experienced as more concrete, in the sense that the word itself stands out in its physical “materiality,” enabling a form of direct, but semantically hollow apprehension, and as more abstract, in the sense that, as such, it is to some extent withdrawn from the historical world of contextual meaning, when its intended object, or structure of meaning, appears to disappear from view. (70)

Pursuing this paradoxical point about language’s concrete materiality being the obverse face of a non-conceptual but nonetheless self-revealing form of abstraction, Holander cites Anca Rosu as a corroborating authority, thereby introducing a significant shift in focus, from the “physical” sound-image of “the word” to the underlying “pattern” in which it participates: “The sensory quality of poetic language can . . . be understood precisely as a kind of abstraction, in the sense that it displaces the attention ‘from representation to pattern,’ a ‘transfer of emphasis’ which often entails ‘an *apparent* loss of meaning at a semantic level’” (70). There are many reasons to insist upon the difference between the underlying pattern and

the sound-images it organizes, but for immediate purposes suffice it to say that one sound does not a pattern make, nor, in the sense intended by Stevens critics, do two or three. Especially in poetry, surely it is fairer to say that the pattern makes the (foregrounded, materially perceptible) sound. Irrespective of the elements it organizes, a pattern may be defined as a distribution that obeys a constrained (non-random) interval; this interval that generates the organized distribution of elements would appear to be both antecedent to and more abstract than the (material) elements so distributed (on the model, e.g., of Chomsky's generative or Langacker's cognitive grammar).

Chiasmus is one such pattern that is antecedent to and more abstract than the linguistic elements it organizes, as its mobility across all levels of linguistic structure, and indeed beyond, suggests. Chiasmus is thus not merely a "grammatical figure by which the order of words in one of two parallel clauses is inverted in the other" ("Chiasmus") but rather a pre-conceptual, pre-linguistic ("eidetic") pattern of mind, or, in the more precise terms of cognitive science, an embodied schema that derives from the bilateral symmetry of our bodies, especially as expressed in the hemispheric and mirror-symmetrical organization of our brains (Turner 68–98). It is thus perhaps uncanny but on this account no surprise that in his program poem "Of Modern Poetry" calling for "The poem of the mind in the act of finding / What will suffice" (CPP 218), Stevens ultimately specifies "what suffices" as "Sounds passing through *sudden rightnesses*, wholly / Containing the mind, below which it cannot descend, / Beyond which it has no will to rise" (219; emphasis added). The phrase "*sudden rightnesses*," studded as it is with alveolar consonants, stands as a material, non-semantic icon of the meaning it encodes. However, it is not the individual consonant sounds themselves but rather their chiasmic patterning (sibilant, stop-nasal, stop-nasal, sibilant) that makes for the "sudden" and salient "rightness" of the expression, rendering it, as the line's marvelous enjambment homonymically suggests, self-contained and *almost* "holy."

The discovery of such literally *mindful* patterns is what it means, in the words of a closely related poem, to "eke out the mind / On peculiar horns, themselves eked out / By the spontaneous particulars of sound" (CPP 275). Mediating between "the mind" of the poet and "the spontaneous particulars of sound" spelled out in his verse are the "peculiar horns" of chiasmus, as the final lines of "The Creations of Sound" "say" more clearly in their underlying form than in the conceptual content of their "speech":

We say [A] ourselves in syllables [B] that rise [C]
 From the floor, rising [C] in speech [B] we do not speak [A].
 (CPP 275)

"We say" and "we do not speak" are logical antitheses, "syllables" is a synecdoche for "speech," and "rise" and "rising" are inflections of the same

stem. Conceptual elements that one line presents in forward order, ABC, the next systematically reverses, CBA; these two counter-movements frame and foreground the central phrase “From the floor,” a metaphor that evidently represents the ground of consciousness from which “the spontaneous particulars of sound” arise and whose mirror-symmetrical form they isomorphically express.

These chiasmic examples from Stevens offer precise illustrations of the ways in which “the non-semantic patterning of perceptual details . . . subordinates ordinary linguistic function” and thereby discloses natural but nonetheless unusual forms of cognitive functioning (Savarese and Zunshine 27). Savarese himself has advanced this claim on the basis not of Stevens’ work but of similar examples drawn from the writings of Tito Mukhopadhyay, “a twenty-five-year-old writer whom the medical community would describe as ‘severely autistic’ and [whom Savarese has] been mentoring for the last half-decade” (19). Savarese cites and analyzes Mukhopadhyay’s richly poetic self-report of perceptual distortion in language processing, emphasizing its “highly patterned” use of “anaphora” and “varied yet resolved internal repetition,” a circumlocution for chiasmus, as his supporting extracts from the four-sentence passage show: “I saw,” “I watched,” “I watched,” “I saw” (Savarese 406). In fact, the report is structured by chiasmus not only at the clausal level but also at the levels of phrase (e.g., in order of appearance, “apple green and yellow,” “strings . . . like raw silk,” “strings . . . like entangled silk,” “apple green and yellow”) and image modality (visual in the first sentence, kinesthetic in the second and third, visual in the last). Noting that enhanced abilities for pattern perception and production have been experimentally demonstrated in many individuals with ASD, Savarese suggests that “Pattern . . . is what attracts classical autistics to poetry. Although Mukhopadhyay obviously learned how to use language symbolically, he still thinks of poetry as ‘an ambition to please the ear’” (Savarese and Zunshine 36). Judging from the way his own writing foregrounds “pattern” over “the spontaneous particulars of sound” it organizes, Mukhopadhyay apparently obeys and aims to please not the blunt and uncomprehending ear of flesh, but a more sensitive and determinative aspect of embodiment that Stevens denominates “the delicatest ear of the mind” (CPP 219).

“‘Designs can be visual,’ [Mukhopadhyay] has remarked, ‘and designs can be formed in sound’—the pattern makes it ‘more than a thing to ignore’” (Savarese and Zunshine 36). With these words, Mukhopadhyay comes very close to saying that visual designs can be formed in sound, which would be an excellent way of characterizing the mirror-symmetrical organization of his self-report and of his strikingly Stevensian poem “Orange”:

It was orange *as always* [A], when I heard the wind.
Orange it is [B]—the *sound of the wind in spring* [C].
 It made the branches swing. It colored every little thing.

It smelled in orange—that *sound of wind in spring* [C].
Orange it is [B]—*as always* [A]—the sudden wind.
It kept getting wilder—its orange on everything.
(qtd. in Savarese 405)

More than the rhyme scheme, the highlighted lexical chiasmus, along with the unreversed repetition of ideas in lines 3 and 6, helps to clarify the underlying two-part form of Mukhopadhyay's three-line stanza. Making the patterning still more intricate and Stevensian, the B term of this lexical chiasmus participates in a much more compressed *grammatical* chiasmus operating in the first two lines: *It was* [A] *orange* [B] . . . / *Orange* [B] *it is* [A]. These lines further mirror the stanzas they inaugurate by balancing this line-opening chiastic reversal with the line-closing unreversed repetition of "I heard the wind" / "the sound of the wind."⁵ Analyzing the many other structural patterns at play here, Savarese suggests that the poem works by distracting and thereby liberating the mind from higher-order semantic meaning:

Notice the poem's patterning: . . . from the order of the end words, which changes from stanza to stanza, to the order of the beginning words, which does not. The rhymes are both true and slant; words and phrases reappear, though often in different slots. The blend of alliteration, consonance, and assonance suggests an acoustical fabric, one that can almost be touched by the ear. . . . Although the diction is quite simple and although the poem foregrounds concrete sensory perception, we are unmistakably in the realm of meaning. And yet meaning, at least in part, seems beside the point. (405)

Converging, though unintentionally, point for point with the Stevens criticism reviewed above, Savarese's cognitive analyses of Mukhopadhyay's writing raise the cross-disciplinary question of whether such non-semantic, pattern-based effects can be more finely parsed into their neuro-cognitive constituents and order(s) of operations, leading to a still deeper appreciation of Stevens' poetics and poetics in general and, potentially, of the neuro-behavioral differences in ASD as well.

3. CHIASMUS IN LANGUAGE, COGNITION, AND THE BRAIN

With its distinctive and likely deep-seated signature in both literary and autistic minds, chiasmus is an especially promising candidate for joint cognitive-poetic and cognitive-scientific investigation. This two-pronged poetic-scientific approach was outlined more than a quarter century ago

by the late Max Nänny, a Swiss-born scholar of English and American literature, who in separate articles analyzed chiasmus in linguistic and neurological terms. From the linguistic point of view, "the chiasmic patterning *abba* may occur not just on the sentence level but on *all* levels of a literary text: on the level of sounds (including rhymes and rhythm), words, sentences, lines, stanzas, narrative elements (plot, character), and concepts. It goes without saying that chiasmus may be combined with other rhetorical figures such as parallelism, antithesis (dialectical chiasmus), polyptoton, anadiplosis, etc." ("Chiastic" 75). As the following table indicates, Stevens' verse is replete with illustrations, many of which seem to characterize the chiasmic phenomena they inscribe.⁶

Table: Varieties of Chiasmus in Stevens' Verse

<i>Phonetic</i>	<p>The <u>v</u>igor [A] of <u>g</u>lory [B], a <u>g</u>littering [B] in the <u>v</u>eins [A]. . . . ("Reality Is an Activity of the Most August Imagination," CPP 471)</p> <p style="text-align: right;">It must</p> <p>Be the <u>f</u>inding [A] of a satisf<u>a</u>ction [B], and may Be of a man skating, a woman dancing, a woman Combing. The poem of the <u>a</u>ct [B] of the <u>m</u>ind. [A] ("Of Modern Poetry," CPP 219)</p>
<i>Lexical</i>	<p>He never felt <u>t</u>wice [A] the <u>s</u>ame [B] about the flecked river, Which kept flowing and never the <u>s</u>ame [B] way <u>t</u>wice [A]. To be a <u>b</u>ronze [A] <u>m</u>an [B] <u>b</u>reathing [C] under archaic lapis,</p> <p>Without the oscillations of planetary pass-pass, <u>B</u>reathing [C] <u>h</u>is [B] <u>b</u>ronzen [A] breath at the azury center of time. ("This Solitude of Cataracts," CPP 366)</p>
<i>Grammatical</i>	<p>O juventes, O filii, <u>h</u>e <u>c</u>ontemplates [A] <u>A</u> wholly artificial nature [B], in which The profusion of metaphor has been increased.</p> <p><u>I</u>t is <u>s</u>omething on a <u>t</u>able [B] that <u>h</u>e <u>s</u>ees [A]. . . . ("Someone Puts a Pineapple Together," CPP 693)</p>
<i>Phonetic/ Lexical</i>	<p>A shadow in the mind, <u>a</u> <u>f</u>lourisher [A] Of <u>s</u>ounds [B] resembling <u>s</u>ounds [B], <u>e</u>fflorisant [A]. . . . ("Montrachet-le-Jardin," CPP 234)</p>

Lexical/ Grammatical	It stands gigantic, with a <i>certain tip</i> [A] To which all <i>birds come</i> [B] <i>sometime</i> [C] in their time. But <i>when</i> [C] <i>they go</i> [B] <i>that tip</i> [A] still tips the tree. ("Le Monocle de Mon Oncle," CPP 13)
Lexical/ Linear	<i>Go on</i> , high ship, since now, upon the shore, [A] <i>The snake has left its skin upon the floor.</i> [B] Key West sank downward under massive clouds And silvers and greens spread over <i>the sea</i> [C]. <i>The moon</i> [D] Is at <i>the mast-head</i> and the past is dead. [E] Her mind will never speak to me again. I am free. High above <i>the mast</i> [E] <i>the moon</i> [D] Rides clear of her mind and <i>the waves</i> make a refrain [C] Of this: that <i>the snake has shed its skin upon</i> [B] <i>The floor.</i> <i>Go on</i> through the darkness. The waves fly back. [A] ("Farewell to Florida," CPP 97)
Conceptual/ Stanzaic	Soon, with a noise like tambourines, Came her attendant Byzantines. [A: movement toward]
	They wondered why Susanna cried Against the elders by her side; [B: effect]
	And as they whispered, the refrain [C: tenor] Was like a willow swept by rain. [C: vehicle]
	Anon, their lamps' uplifted flame Revealed Susanna and her shame. [B: cause]
	And then, the simpering Byzantines Fled, with a noise like tambourines. [A: movement away] ("Peter Quince at the Clavier," CPP 73-74)
Lexical/ Grammatical/ Conceptual/ Linear/ Stanzaic	Say how his heavy <i>wings</i> , [A: imperative; bird image] Spread on the sun-bronzed <i>air</i> , [B: locative; sun color image] Turned tip and tip away, [C: verb phrase; circling image] Down to <i>the sand</i> , the glare [D: locative; earth image] Of the pine trees edging <i>the sand</i> , [D: locative; earth image] Dropping in sovereign rings [C: verbal phrase; circling image] Out of his fiery <i>lair</i> . [B: locative; sun color image]

Speak of the dazzling *wings*.

[A: imperative; bird image]

("Some Friends from Pascagoula," *CPP* 104)

Given that chiasmus can operate at any level of the linguistic and literary systems, its formal pattern is evidently neither linguistic nor literary in essence, but rather, as the table may already suggest, visual-spatial. Because it involves visual-spatial properties that are independent of the language system, Nänny speculates that linguistic chiasmus ought to have a distinctive neural signature, registering as an increase of right-hemispheric activation in the brain's visual areas:

A literary text . . . is the result of a sophisticated interaction between the left brain that controls verbal, propositional as well as sequential processes and the right brain which imposes non-temporal, visuo-spatial patterns on the verbal sequence. It is this hemispherical interaction which accounts for the presence of both a temporal and a spatial dimension in literature. . . . Now chiasmus as a pattern of words or textual elements partakes of these two dimensions: it can be experienced only verbally in time but its chiastic arrangement must be seen as a simultaneous, quasi-spatial pattern. ("Chiasmus" 51)

These early hints from Nänny correlate well with a more recent analysis of the same issues by the cognitive literary theorist Michael Burke, who proposes that the fundamental structure of rhetorical schemes must be "imprinted in feature maps, like, for example, the points of the 'X' of the chiasmus. These maps are most likely to be located, at least in part, in the sensorimotor system of the brain" (210),⁷ that is, the very system (or really *systems*) in which individuals with ASD are most likely to show enhanced performance. According to Burke, once instantiated in the brain, feature maps can create a "top-down" pressure for sensorimotor pattern extraction from the "bottom-up" incoming stream of perceptual data (in this case, visual or acoustic language forms), with a correspondingly "slight, medium, or robust effect" of semantic interference, very much in keeping with what is reported in response to the material sound structure of Stevens' verse:

In the first [or "slight"] case the [top-down] simulation will not stay in consciousness long, receding back almost immediately into long-term memory to await further activation in future reading scenarios. In case two ["medium" effect], the simulation will dwell, and may even threaten to override incoming data, before receding into long-term memory, re-primed for possible future activation. Case three ["robust"] sees the style

figure in question attaining full consciousness with the real potential of overriding the actuality of the . . . linguistic input on the page. This process of overriding the semantic contact is something that has been attested in many experiments in discourse processing studies. (208)

Often registering simply as a “sudden rightness” and being left at that, phonetic chiasmus frequently elicits only the slightest effect of pattern-recognition, a point made by Keyser in his brilliant analysis of the chiasmic reversals that organize Stevens’ “Poetry Is a Destructive Force,” including the “reversal of *like* and *kill*,” which “is compacted into single-syllable words and for that reason perhaps less instantly noticeable” (229). Lexical and grammatical chiasmus, on the other hand, typically contribute to the modest effect Burke describes, whereby recognition of the chiasmic pattern may momentarily but not entirely overwhelm the processing of semantic content, and may ultimately reinforce it, as, for example, in the individual lexical and grammatical chiasms illustrated in the table above. The robust effect of fully “overriding the semantic contact” (Burke 208) appears most likely in sequences that incorporate two or more consecutive and/or interpenetrating chiasms, producing a strong sense of visual-spatial order that can literally be seen on the page and, when it is, will very likely impede processing, at least for some disturbingly pleasurable moments, of the propositional meaning(s) of the language forms involved, as in the table’s examples from “Farewell to Florida” and “Peter Quince at the Clavier.”

Burke wonders “whether it is possible that repeated exposure to such a style figure, within a habituated literary discourse processing situation, can result in either an X design and/or a ‘turning about in opposite direction’ pattern eventually being imprinted on the physical brain, either in the visual or motor cortex, showing where frequent neural firing has taken place” (212). But this is getting the cart of linguistic manifestation before the horse of neuro-cognitive organization. Chiasmus is not a mere linguistic figure learned through exposure to literary discourse but rather a pre-linguistic cognitive pattern, or even neural disposition, grounded in the bilateral, mirror-symmetrical organization of the visual cortex.

Significantly for an account of both the playful effects (in Altieri’s description) of Stevens’ verse and the profound ones experienced by readers with ASD, it turns out that the mirror-symmetrical organization of the human visual system, itself a wonder of evolutionary history, nevertheless presents all humans with special challenges when it comes to the acquisition of literacy. In *Reading in the Brain: The Science and Evolution of a Human Invention* (2009), the cognitive neuroscientist Stanislas Dehaene explains how the brain, which did not evolve to support reading, nevertheless learns to do so by reconfiguring (or “recycl[ing]”) neural circuits in the occipito-temporal cortex that were originally evolved for other,

predominantly visual-spatial purposes (2, 122ff). This recycling involves strong left-hemispheric lateralization of circuits that are innately wired to communicate with their mirror-symmetrical counterparts in the right hemisphere (275). A “telling anomaly” that lends strong support to this hypothesis is the widespread phenomenon of “mirror reading and writing” in children who are learning their alphabets and how to write words and names (266, 290). As Dehaene remarks,

If children spontaneously confuse left and right when reading and writing, it is because their visual system, before formal schooling, already conforms to a strong symmetry constraint. Our visual brain assumes that nature is not concerned with left and right, and therefore obliges children to generalize across mirror orientations. This symmetry constraint, handed down to us by evolution, remains deeply buried in the structure of our cortex and exerts a strong influence on normal and pathological reading. (266–67)

With years of reading and writing practice, most children’s brains overcome this inborn bias for generalization “across mirror orientations,” not by *pruning* mirror-symmetrical pathways to the right occipito-temporal cortex but instead by learning simply to ignore them (see 206–07, 275, 288–89). Though mature readers no longer consciously perceive the mirroring that may naturally attend their reading, they may nevertheless experience it at some pre-conscious level—as is strongly suggested by the body of Stevens criticism, in which critics rarely identify chiasmus as such yet often appear to be responding to its organizing effects. In Dehaene’s pithy formulation, “The mirror [is] not broken, but merely hidden”: “The idea that we are unconsciously haunted by the mirror images of the words we read may not be as absurd as it might first appear. . . . Before our brain recognizes them, [letters] are probably processed like any other visual image, perhaps even while we read. In this case, interhemispheric transfer should still turn them over like a glove” (289). The persistence of highly localized but normally disattended right-hemispheric activation in reading would help to explain the frequency and curious effects of chiasmus in literary and other discourse. We may get a particularly strong cognitive and affective charge from the (often subconscious) perception of mirror-symmetry in linguistic contexts (e.g., the visual one of reading) that normally operate through a selective suppression of the innate mirror-symmetrical organization of the visual brain.

These general hypotheses about the reading brain correlate well with particular research findings concerning the reading (dis)abilities of individuals with ASD, who as a population “experience difficulty with reading comprehension . . . despite possessing adequate levels of decoding ability” (Nation et al. 917) and in some cases “remarkably advanced” but

“usually only superficial” word recognition skills (912). Related studies find that “This profile [is] further defined by intact or superior performance in the attention, sensory perception, simple memory, simple language, and visual-spatial domains” (MinsheW et al. 310; Williams et al.). Combined, these results suggest that individuals with ASD who tend to struggle with higher-order⁸ linguistic operations in the related “complex language, complex memory, and reasoning domains” (MinsheW et al. 310) may do so precisely because they preferentially attend to lower-order information in the given discourse, such as the material sound-shape of phonemes, graphemes, bigrams, morphemes, and whole words.

Notably, autistics’ superior visual-spatial abilities are often measured by and extrapolated from their “enhanced detection of patterns,” including patterns of vertical, horizontal, and oblique symmetry (Motttron et al. 1385; Perreault et al.; Jolliffe and Baron-Cohen). These findings should readily suggest the experimental potential of chiasmus, which can be precisely defined in the terms of these studies as a cognitive “grouping process” involving relations of “proximity” and “similarity” constrained by “symmetry”:

Pattern recognition cannot be dissociated from grouping processes. Accordingly, pattern detection could be defined as the capacity to detect organization in the phenomenal aspects of the world [or a text]. This may be done within the perceptual field, by the detection of relative properties of a series of features (e.g. proximity), or between two series of features (e.g. symmetry and similarity). . . . [Such] grouping processes are, at least under some experimental conditions, intact or even superior, but not mandatory in autism. (Motttron et al. 1387)

The qualification “not mandatory in autism” means “optional in autism,” with the further implication, as the subsequent discussion makes clear (1389), that these perceptually based grouping processes are normally *not* an option for, meaning not open to, individuals without ASD. In other words, compared to individuals with autism, non-autistics are strongly predisposed by learning to process language-related information *as* language, proceeding immediately and obligatorily to higher-level semantic processing; by contrast, while they may do the same in certain situations, autistic individuals may additionally or alternatively process language-related information as pre-linguistic perceptual patterns. Notice that this account of language-processing differences provides an exact characterization, on the one hand, of the automatic linguistic competence Stevens confronts in the majority of his readers and, on the other, of the counteracting condition he means to inspire with his perceptibly patterned verse.

Crucially, enhanced sensitivity to symmetrical relations may be predicted not only of the ASD population but, to some extent and for certain

limited durations, equally of the non-ASD population when exposed to chiasmic patterns in language. In both cases, we may expect heightened activation in the right-hemispheric occipito-temporal regions that originally and, in a “hidden” way, persistently mirror the counterpart left-hemispheric regions that “normal” reading recycles for mandatory semantic processing (Dehaene 289, 267). Empirical studies of this hypothesis could be especially revealing with respect to the language processing differences that are prevalent in ASD and that are much more selectively enabled in readers of Stevens’ poetry. ASD researchers themselves stress “the need for the development and testing of experimental paradigms, in which the perceptual/semantic dimensions [of stimuli] are manipulated independently” (Järvinen-Pasley et al. 117; see also Nation et al. 917). Because it structures a semantic message according to a visual-spatial pattern, linguistic chiasmus is a figure in which these dimensions can be readily manipulated at the graphological, phonological, lexical, grammatical, and other levels, with very specific predictions about where and how the resulting stimuli might be processed in the brain, especially by a population gifted at mirror-symmetrical pattern extraction, but also by others for whom poetic patterns evoke parallel but generally neglected sensitivities.⁹

4. THE INTERNAL MUSIC OF CHIASMUS

Beyond generating theoretical, experimental, and potentially clinical implications with respect to the reading brain, the literary mind, and certain processing differences in ASD, closer attention to chiasmus will almost certainly make us better readers of Stevens’ poetry, especially his endlessly modulated notion of “The central man, the human globe, responsive / As a mirror with a voice” (CPP 227). In Stevens, this central “mirror” is not, in the first place, a semantic metaphor but rather a pre-linguistic cognitive schema—chiasmus—a native figure of mirroring and centering that orchestrates perceptible “rightnesses” of poetic sound:

Berouse, transatlantic. The *children* [A₁] are men, *old men* [B₁],
 Who, when they think and speak of *the central man* [C₁],
 Of the humming of *the central man* [C₁], the whole sound
 Of the sea, the central humming of the sea,
 Are *old men* [B₁] breathed on by [A₂] a maternal voice [B₂],
Children [A₁] and old men and philosophers [C₂],
Bald heads [C₂]¹⁰ with their mother’s voice [B₂] still in their ears [A₂].
 The self is a cloister **full of remembered** [A₃] **sounds** [B₃]
 And of **sounds** [B₃] **so far forgotten** [A₃], like her voice,
 That they return unrecognized.

(CPP 202)¹¹

To miss this central and centering feature of Stevens' poetics is to miss much indeed, as may be illustrated with reference to an otherwise perfectly congenial argument, Beverly Maeder's *Wallace Stevens' Experimental Language*.

Maeder proposes that "Stevens' poems perform basic research in the area of poetic language" (61), with the leading question being how best to use the slippery and indirect means of language to represent our phenomenal experience (what Altieri calls "aspect-seeing" and "valuing") of the inalienable but otherwise unknowable external world. As Maeder puts it, referencing an inherited notion of cognitive schemas very much related to the one pursued here,

Caught between an appreciation of the direct pleasure provided by the objects of sight (and to some extent hearing) and a suspicion of the primacy of the structures of the mind that Kant hypothesized, Stevens at his most self-conscious seemed aware that language was neither the equivalent of a thing nor the direct expression of the mind. (52–53)

As I have suggested with respect to the representative case of chiasmus, to achieve a more direct, less mediated "expression of the mind," Stevens' poems hew formally to pre-linguistic and pre-conceptual patterns whose origins lie in the very sensorimotor capacities that afford us "the direct pleasure provided by . . . objects," including language in its material dimensions. Understood in this deep cognitive rather than a merely ornamental sense, it strikes me as exactly right to claim that rhetorical schemes,¹² and chiasmus preeminently, provided Stevens with a crucially self-reflexive scaffolding for the poetic disposition of an otherwise stubbornly falsifying (because *merely* conceptual and therefore inescapably metaphorical) language system.

Maeder is not unaware of Stevens' facility with the scheme of chiasmus, but she seems like most critics who note its use here or there in Stevens' verse to consider it largely ornamental, or, if integral, only local in implication. For example, Maeder pinpoints a thematically revealing chiasmus in the opening section of "The Man with the Blue Guitar," yet overlooks the surrounding chiasmic layers in which it is embedded:

In inventing the quasi chiasmus "they are / Are changed," [Stevens] also emphasizes the agency of the guitar behind the new mode of "being." This mode is not one of existence but of the pseudocopular "Are changed." At the outset, the reader can infer that whatever "things as they are" may include, the tune-song-poem cannot fail to establish a difference, a turning from "are" to "Are changed," a transfer from existence to rupture of identity. (130)

Maeder reads this “quasi chiasmus” in light of her master theme of language’s inequivalence to either objects of perception or the perceiving, expressive mind, but attention to the larger chiastic structures in which these verses participate reveals a compelling logic of mirror-equivalence that regulates and balances the ontological “difference” Maeder identifies. In relation to the two preceding lines—

They said, “You have a blue guitar,
You do not play things as they are.”

The man replied, “Things as they are
Are changed upon the blue guitar.”

(CPP 135)—

the two from which Maeder quotes involve chiastic structuring at the levels of rhyme (/tar/, /ar/, /ar/, /tar/), lexis (“blue guitar,” “things as they are,” “Things as they are,” “blue guitar”), grammar (“You do not play” = active voice, “things as they are” = accusative noun phrase, “things as they are” = nominative noun phrase, “Are changed upon the blue guitar” = passive voice), and line and stanza structure to boot. The grammatical chiasmus is particularly potent in its implication that the object of perception and the subject of perception, not only in the grammatical sense but in phenomenological and poetic senses as well, are modifications of one and the same thing. This helps to make sense of the chiastic rejoinder—“*A tune* [A] beyond *us* [B], yet *ourselves* [B], / *A tune* [A] upon the blue guitar” (CPP 135)—in the next pair of couplets, which further mirror the preceding lines by inverting their conceptual and linear order: where the earlier lines present the concepts in the order *guitar, things, things, guitar*, the later ones render them in opposite order, *things,¹³ guitar, guitar, things*.

Such intricate multi-layered chiastic structuring persists throughout the poem, but so does Maeder’s oversight of its organizing relational effects, leading to mischaracterizations (if not misinterpretations exactly—chiasmus registers whether we mark it or not) of the poem’s internal organization and dynamics. For instance, Maeder suggests that section XI “discomfort[s]” its reader because “The four initial transformations effected with ‘become’ *are not systematically undone or redone* in the second and third movements. Instead, once the men and children have been neatly dealt with, the poem proceeds through primarily *haphazard changes*”; “the series’ *abrupt* representational and syntactic shifts” contribute, according to Maeder, to an overall “*lack of thematic coherence*” (169; emphases added). However, chiastic analysis reveals that the four opening topics or focuses are indeed “systematically . . . redone,” neither “abrupt[ly]” nor “haphazard[ly]” but deliberately and methodically (though not mechanically):

Slowly the *ivy* [A₁] on the stones
Becomes the *stones* [A₂]. *Women* [B₁] become

The *cities* [B₂], *children* [C₁] become the *fields* [C₂]
And *men* [D₁] in waves become the *sea* [D₂].

It is the chord that falsifies.
The *sea* [D₂] returns upon the *men* [D₁],

The *fields* [C₂] entrap the *children* [C₁], *brick* [B₂ by synecdoche]
Is a *weed* [B₁ or, more likely, A₁] and all the *flies* [A₁ or, more
likely, B₁] are caught,

Wingless and withered, but living alive.
The discord merely magnifies.

(CPP 139–40)

Maeder's sense of discomfort arises precisely because of a carefully orchestrated "discord" that breaks the mirror-within-mirror chiasmus with the unexpected transposition of the metaphors "weeds" and "flies" and, in chiasmic turn, of their tenors, "ivy" and "women." This discord in line eight is "magnified" by the shift from active voice to passive ("are caught"), which deletes the final term [A₂] and leaves the chiasmic balance uncomfortably unfulfilled (in fact, the anticipated A₂ is not deleted, only delayed until it "abruptly" resurfaces in final position of the section as "the rock").

In her treatment of section XVIII, Maeder again picks on all the right terms for just the wrong reasons. Maeder accurately reads "The ostensible theme of this section [as] that of trying to give form ('dream,' 'thing') to sheer sense perception in a world of mere objects," but in her sensitive analysis of the section, she mischaracterizes "The spatial fixity of 'I,' 'object,' 'dream,' 'thing,' 'hand,' and 'wind-gloss' [as] *drift[ing]* into *vaporous diffusion* until crystallizing in the final vision of cliffs and sea. In a *free speculative movement within language*, words like 'dream,' 'thing,' 'senses,' and 'touch' are *displaced* into new syntactic positions" (180; emphases added). Far from "drifting" in "vaporous diffusion" or being arbitrarily "displaced," all but one of the terms ("I") Maeder cites are strictly placed according to the mirror-symmetrical dictates of chiasmus:

A dream (to call it a dream) in which
I can believe, in face of *the object* [A],

A dream [B] no longer a dream [B], a thing [A],
Of things as they are, as the blue guitar

After long strumming on certain nights
Gives *the touch* [A] of *the senses* [B], not of the hand,

But *the very senses* [B] as they *touch* [A]
The wind-gloss.

(CPP 143)

How can poetry ("the blue guitar") give the "touch" of "the very senses" ("not of the hand" but of the bilaterally grasping mind), transforming the poet's intuition into a perceptible, material "thing"? By superimposing something of the mind's own form upon the linguistic sequence—here, as so often in Stevens, in the form of chiasmus, a "mirroring" schema that, like the reflective face of the "cliffs" at the section's close, "Ris[es] upward" from a heretofore unfathomable "sea of ex" (CPP 143). This is indeed the human center of Stevens' poetry, the C of the chiasmic X if you will—AB:BA = ABCBA—where C is the mind that emerges from, and therefore gladly produces and perceives, balanced bilateral relations.

Given just these few chiasmic counter-analyses, which may be reduplicated with many sections of the poem, we may improve upon Maeder's conclusion about "The Man with the Blue Guitar" by specifying her vague but nonetheless accurate sense of the "something" that governs the "central" movements of the poem. "The performer," Maeder writes, "has assured the ongoing movement of the central sections by listening not to the audience's commands but to his instrument—and to his own inner ear as he sounds out his poem, leading a motif to the briefest statement possible, allowing something rhythmic in a syntactic or phonetic pattern to become just palpable before leaping to the next motif" (192). This "palpable" "something" is, not exclusively but often, deeply, and obviously effectively, chiasmus. Maeder's inattention to chiasmus, like that of many another Stevens critic before and since, illustrates a crucial literary-critical point made in another context by Patricia Ann Lissner: "gloss[ing] over the AB:BA form" of chiasmus "means that how its pattern bundles words and ideas and steers meaning [is not] factored into the larger analysis. And oversights of this sort have an obverse consequence; namely, conferring on other structures, linguistic or rhetorical, or on other literary or textual factors more credit [or less] than is rightfully owed or entirely due them" (438, 439). Given the "vital" and accordingly "arrogant," "fatal," and "dominant" presence of the chiasmic "X" in Stevens' poetry (CPP 257), criticism that neglects the figure inevitably does so at its own peril.

Stevens sought throughout his career for a poetic "music that evolves for internal reasons and not with reference to an external program," and "What the spirit wants," he averred, "it creates, even if it has to do so in a fiction" (L 438). The notion he propounds here in straightforward prose he preferred to articulate according to the "internal music" of chiasmus. In the opening lines of "The Creations of Sound," for example, Stevens

equivocates on the cipher-like meaning of “X” to signify the poetic alternatives of the transpersonal (the poetry of chiasmus, as in the first iteration) and the too-personal (the poetry of confession, as in the second):

If the poetry of X was music, [εk], [s], [z], [Ik]
 So that it came to him of its own,
Without understanding, out of the wall

Or in the ceiling, in sounds not chosen,
 Or chosen quickly, in a freedom
 That was their element, we should not know

That X is an obstruction, a man
 Too exactly himself, and that there are words
 Better without an author, without a poet. . . .
 (CPP 274)

As Stevens critics have long argued and as talented pattern seekers with ASD routinely attest, the material sound-images of language can indeed create a “music . . . Without understanding,” a point Stevens makes directly and (unsurprisingly by now) chiasmatically in section 2.IV of “Notes Toward a Supreme Fiction”: “Music falls on the silence like a sense, / A passion that we feel, not understand” (CPP 339). Note that “sense” straddles two different chiastic structures, one entirely phonetic, in which the B term is the sound sequence [sens], the other phonetic/lexical, in which the B term is the appositionally synonymous pair “sense”/“passion.” Such a felt, pre-conceptual music is exactly what the poetic “brooder seek[s]” and attains through chiasmus in “the final chants” of “Extracts from Addresses to the Academy of Fine Ideas”:

the chants

Of the brooder seeking the acutest end
 Of speech [A]: to pierce the heart’s residuum
 And there to find music [B] for a single line [C],
 Equal to memory, one line [C] in which
 The vital music [B] formulates the words [A].
 (CPP 234)

The “vital music” of these lines is scored by chiasmus, which here performs its characteristic framing and centering functions to foreground the phrase “Equal to memory,” meaning equal to the recollected “sense” or “passion” the poet would represent, but simultaneously naming an essential quality of linguistic chiasmus, in which, in real-time processing, the end of the sequence is indeed mirror-symmetrically equal to the memory of its beginning.

The opening lines of "Someone Puts a Pineapple Together" exploit this centering capacity of chiasmus to suggest that its bi-directional relational structure may lie "At the bottom" of all "imagined artifice," including the irrepressible "profusion of metaphor" itself:

O juventes, O filii, *he contemplates* [A]
A wholly artificial nature [B], in which
The profusion of metaphor has been increased [CENTER].

It is something on a table [B] that *he sees* [A],
The root of a form, as of this fruit, a fund,
The angel at the center of this rind,

This husk of Cuba, tufted emerald,
Himself [A], may be, *the irreducible X* [B]
At the bottom of imagined artifice [CENTER],

Its inhabitant [B] and *elect expositor* [A].
(CPP 693)

The final chiasmus is, I admit, debatable, but it is suggested by the four-square, almost visual structure of the phrases involved and further reinforced by the pronoun-antecedent relationship between "Its" and "the irreducible X," which seems to trace one diagonal axis of the criss-cross entity it names. Scanned in this direction, the appositional chiasmus suggests that the poet inhabits the irreducible chiasmus; scanned in the other, it suggests that he "himself" is therefore its "elect expositor," chosen to reveal the irreducible X not by explaining it (in the conceptual sense of "expositor") but by commandingly performing it (in the etymological and image-schematic sense of "one who places"). Centered between this four-square appositional chiasmus and the grammatical chiasmus that opens the poem is a related series of appositional names for the "wholly artificial nature" of "the irreducible X," suggesting that it is "The root," "a fund," and, most significantly, "The angel at the center of this rind" (CPP 693). Of course, this like all the appositives in the series refers in the first instance to the pineapple itself (whether conceptualized as an objective fruit or a sort of cubist abstraction thereof). But as the reiterated proximal deictic suggests, the "angel at the center of *this* rind" is at the same time the palpable fruit within the structure of the poem's words, and, still more materially, it is the someone who puts the pineapple-poem together, the poet who scores its "artificial nature" to the internal music of his own embodiment.

5. CONCLUSION

By tracing literary phenomena to their origins in embodied cognition, cognitive literary studies aims to contribute to better-grounded, finer-grained, and ultimately less figurative explanations of literature's distinctive effects. With respect to the multi-level chiasmic organization of Stevens' verse, the cognitive arguments advanced here serve to clarify and extend those of the only other sustained treatment of chiasmus in Stevens that I know of, Samuel Jay Keyser's 2011 study of "Reversals in Poe and Stevens." Keyser's conclusion agrees perfectly with my own: in the act of creation, "the poet imposes order on chaos"; the resulting poem "offers a diagram—a dance notation if you will, a choreographic demonstration of how Stevens' poetic imagination works" (233). In particular, chiasmic "reversals of words" and other language forms help to engender the poems that contain them and thereby function as "the progenitor" of Stevens himself as a poet (234). Keyser leaves this generative force of chiasmus otherwise unexplained, though he provides important metaphorical hints as to its nature in his careful analyses of the self-reflexive poems "Poetry Is a Destructive Force," "A Weak Mind in the Mountains," and "On an Old Horn," in each of which the ruling chiasmic "spirit transforms a man into a man/beast" of some kind, thereby "kill[ing] the man" (229), or, less ominously, revealing "the poet as a beast," and, "hence, more than a man" (231). These are intriguing if somewhat baffling statements, but one compelling way to make sense of them is in terms of the difference between embodied sensorimotor schemas—essential non-semantic cognitive equipment we share with other animals—and the concepts and ideas we humans have leveraged these schemas to organize and express. By giving pride of place to the embodied, "creaturely" bilaterality of chiasmus—its intrinsically non-linguistic, visual-spatial patterning of linguistic features—Stevens' verse displaces attention from higher-order semantic processing of the language forms involved to lower-order perceptual processing of the pattern(s) by which they are organized. This is what it literally means, or at least could literally mean, when we metaphorically conclude that a Stevens poem contrives through chiasmus to "kill the man" by disclosing the "beast." The more literal cognitive explanation has the further advantage of being more widely applicable, not just to Stevens' oeuvre but to poetics and rhetoric at large, and, further afield, to interdisciplinary research into ASD and the reading brain more generally.

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Notes

¹Such parallels help to explain many readers' willingness to offer folk psychological diagnoses of Stevens as an individual "on the spectrum." See, for example, the final

paragraph of THUMB TOM's April 6, 2013 Amazon.com review of James Longenbach's *Wallace Stevens: The Plain Sense of Things*; Annalee Newitz's Sept. 26, 2005 Altnet.org story on "The Glamorous Disease"; and dictionary.com's list of "asperger-disorder quotes," which includes the chiasmic opening lines of Stevens' "Connoisseur of Chaos." The screenwriters of *Law and Order: Criminal Intent* apparently made the same unprofessional diagnosis: see "Wally Stevens" as listed among the characters on the *Wikipedia* and *imdb.com* pages devoted to the TV series.

²Such a "binocular" focus (metaphor courtesy of Nick Myklebust) is indispensable for the interdisciplinary project of cognitive literary studies; see Bruhn.

³I hasten to add that "differences" and "difficulties" are not synonyms for "deficits" or "disabilities." As Mottron et al. put it, "The wide variety of atypical mechanisms involved . . . suggests that autistic cognitive atypicalities are more accurately described as an entirely different processing system, rather than as a collection of negative cascade effects resulting from one or many major impairments (excesses or deficits) impeding typical processing and development" (1385). Ralph James Savarese therefore advocates a wholesale rethinking of ASD in terms of the more plastic concepts of "neurodiversity" and "neurohybridity," which characterize *all* brains.

⁴For details and developments of this line of interpretation, see Gerber.

⁵The example illustrates, as does virtually every similar instance in Stevens, that chiasmus may easily overlay or otherwise intersect other rhetorical tropes and schemes (e.g., metaphor, anaphora, amplification, etc.), many if not all of which may be likewise deeply cognitive in origin. This is the central thesis not only of cognitive linguistics and cognitive literary studies but also, within the field of communication, of the International Rhetoric Culture Project; see Strecker and Tyler for details.

⁶Unless otherwise indicated, all emphases within the table and subsequent extracts from Stevens' verse are added.

⁷Turner, drawing on the work of Gerald Edelman, explains feature maps as follows: "Neurons are free agents. Neuronal group patterns compete for the participation of individual neurons. The result is a plastic, dynamic system in which links and patterns of links, both excitatory and inhibitory, can grow stronger or weaker. There are maps in the brain that correspond to sensory modalities, and there are cross-modal connections across those maps. Thought is the activity across such neuronal group patterns" (45). "Feature map" and "image schema" characterize two aspects of the same phenomena, the former from a neurological perspective, the latter from a cognitive perspective.

⁸So called because in terms of neural processing, reading involves the flow of visual information from the primary or "downstream" areas of the visual cortex through more "upstream" areas of the visual cortex and then, with strong left-hemispheric lateralization, into the temporal and prefrontal cortexes, which are indeed situated "higher" in the brain. In these higher regions, perceptual processing of the visual stimulus gives way to semantic and pragmatic decoding.

⁹Experiments with both ASD and non-ASD subjects responding to chiasmally and non-chiasmally structured linguistic and non-linguistic stimuli could provide data relevant to a range of live ASD research issues, including the extent to which autistic individuals' difficulties in reading stem from a phonological decoding *disadvantage* or a visual-spatial *advantage* (Nation et al. 917–18), the extent to which the visual-spatial system can function independently of the other neural systems required for linguistic processing (Minschew et al. 313), and the extent to which "The atypically independent cognitive processes characteristic of autism allow for the parallel, non-strategic integration of patterns across multiple levels and scales, without information being lost owing to the automatic hierarchies governing information processing and limiting the role of perception in non-autistics" (Mottron et al. 1388).

¹⁰"Bald heads" is a metonym for the three varieties of human being paralleled in the noun phrases of the preceding line. The C₂ relation is thus the metonymic one of whole: part.

¹¹The three varieties of highlighting (*italic*, underline, and **bold**) indicate only the most obvious lexical and conceptual chiasms. Thanks to Stevens' equally pervasive use of apposition, however, additional mirroring structures may be discerned in these lines: for example, the incomplete chiasms "*the central man* [A], / *Of the humming* [B] *of the central man* [A]" and "*Of the sea* [A], *the central humming* [B] *of the sea* [A]," two sequences that are conceptually equated through apposition to create something like a hall-of-mirrors effect in verse.

¹²As Burke puts it, *schemes* such as chiasmus "are essentially deviations in syntactic form" while *tropes* such as metaphor "are figures that mostly deviate at the semantic level" (210). The relation of rhetorical schemes to cognitive image schemata is an open and fertile question: see Johnson; Turner; Lissner; Strecker and Tyler; Paul and Wiseman.

¹³Note the active voice of the imperative.

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