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Defining 'Geometric Poetics' in Nelly Sachs' Poetry: From "The Space of Words" to "the curved line of affliction"

In this essay I examine words and concepts in the postwar lyric poetry of German Jewish poet Nelly Sachs (1891–1970) that are drawn from geometry, the branch of mathematics concerned with the study of spatial objects and their relationships. Sachs viewed language and texts as a space in which we can exist. Her postwar poetry is governed largely by a crisis of orientation, related both to the Shoah and to the Diaspora, which she confronts by attempting to find stability through points, lines, and shapes, and even concepts like Pythagoras's "harmony of the spheres." These are not merely superficial uses of common terms; because she views language as a space, and because she also makes reference to geometry itself, I argue that geometry is a foundation of her poetics. In fact, even her preferred mode of composition, the cycle, can be understood geometrically.

In diesem Aufsatz untersuche ich Worte und Konzepte in Nelly Sachs' Nachkriegsgedichten, die aus der Geometrie, dem Zweig der Mathematik, der sich mit Objekten im Raum und deren Beziehungen befasst, entlehnt sind. Sachs betrachtete Sprache und Texte als „Raum“, als einen buchstäblichen „Sprachraum“. Ihre Nachkriegsgedichte beruhen auf einer Orientierungskrise, die sowohl mit der Shoah als auch mit der Diaspora zu verknüpfen ist und die sie durch Punkte, Strecken, Linien, geometrische Körper und sogar Konzepte wie Pythagoras' „Sphärenharmonie“ konfrontiert. Neben direkten Verweisen auf die Geometrie in ihrer Dichtung kann auch ihre bevorzugte Form – der Zyklus – geometrisch verstanden werden. Vor diesem Hintergrund kann das Nachkriegswerk der Nelly Sachs m.E. als „geometrische Poetik“ bezeichnet werden.

German Jewish poet Nelly Sachs' (1891–1970) postwar poetry covers a broad spectrum of themes, including persecuted and persecutor; memory and forgottenness; God and the divine; Eretz Israel, mysticism, language, and references to ideas from numerous epochs, to name only some of the most consistent. Beneath all of these topics, however, lies the foundation of a ceaseless drive to orient the self in space and time, and furthermore to work out and understand a dynamic reality in the post-Second-World-War era. War destroyed land and nations, and the existence of the concentration camps called long-standing notions of humanity and order into question; from this upheaval emerged a crisis of orientation. People were not only geographically displaced, they were also culturally and intellectually disoriented, a condition most recognizably captured in Theodor Adorno's famous essay *Kulturkritik und Gesellschaft* (1951; Cultural Critique and Society). Nelly Sachs confronted the crisis of orientation through poetry that makes extensive use of terms and ideas from geometry, the branch of mathematics concerned with spatial objects and their relationships. In her poetic attempts to orient the self and

map out postwar space through geometric concepts, she explores the power of logic, but ultimately finds that even mathematics are inadequate for orientation in time and space in the postwar era.

Sachs conceives of words and texts as a space; consider, for example, such verses as: “Weltall der Worte” (space of words),¹ “So rann ich aus dem Wort” (Thus I ran out of the word),² “die entgleisten Sterne ruhen aus im Anfangswort” (the derailed stars rest in the beginning word),³ and “Meer der Vokale” (sea of vowels).⁴ Many scholars⁵ have understood Sachs’ conception of text as space in terms of exile, where language is the substitute for a lost and mourned homeland. Alternatively, I recently argued⁶ that her conception of text as space is more diasporic than exilic, since the dominant mode is wandering, and there is rarely (especially in the first phase of her postwar work) a longing for any kind of return. This emphasis on wandering, moreover, while certainly linked with trauma, is rarely mourned as a state of weakness; rather, it is a state of insight, because a self engaged in wandering is never lulled into complacency and may even find its way into new modes of thinking. The ‘lyrical I’ (the subject position in her poems) attempts to orient itself, and thus to understand this literal *Sprachraum* (space of language), via spatial objects and their relationships. This applies not only to poetic images of conventional three-dimensional objects; she casts concepts and feelings as spatial objects, too, theorizing a postwar space to navigate that is made up, not only of material objects, but also of accretions of experience. She consistently conducts this task via points, lines, two- and three-dimensional figures, and especially circles, spheres, and spirals. Because she then also specifically names *geometry*, the branch of mathematics to which these objects belong, I assert that these are not merely superficial uses of common words, but rather a conscious effort to weave geometric ideas into her poetry. I thus argue that Sachs’ diasporic poetics are fundamentally geometric. A number of the references in Sachs’ poems related to geometry, among them the role of land, the form of time and the cosmos, and the divine creative power of word and number, have been examined through her well-known interest in Jewish mysticism,⁷ but not for their geometric properties. In this analysis I hope to illuminate an otherwise unexplored contribution Sachs made to the postwar literary and cultural landscape. Throughout her postwar poetry, she makes use of the language and concepts of geometry in order to attempt to precisely describe and

¹ Sachs, Nelly: Völker der Erde, in: Weichelt, Matthias (Ed.): Nelly Sachs. Gedichte 1940–1950 (= Nelly Sachs Werke Kommentierte Ausgabe in vier Bänden, Bd. 1), Frankfurt am Main 2010, pp. 91–92, hier p. 92.

² Sachs, Nelly: So rann ich aus dem Wort, in: Huml, Ariane/Weichelt, Matthias (Eds.): Nelly Sachs. Gedichte 1951–1970 (= Nelly Sachs Werke Kommentierte Ausgabe in vier Bänden, Bd. 2), Frankfurt am Main 2010, p. 111.

³ Sachs, Gedichte 1951–1970, 2010, p. 41.

⁴ Sachs, Gedichte 1951–1970, 2010, p. 169.

⁵ Lagercrantz, Olof: Versuch über die Lyrik der Nelly Sachs, Frankfurt am Main 1966, p. 77; Kersten, Paul: Die Metaphorik in der Lyrik von Nelly Sachs, Hamburg 1970, p. 46; Bower, Kathrin: Ethics and Remembrance in the Poetry of Nelly Sachs and Rose Ausländer, Rochester 2000, pp. 10; 249; Dinesen, Ruth: At Home in Exile. Nelly Sachs. Flight and Metamorphosis, in: Frederiksen, Elke P./Wallach, Martha Kaarsberg (Eds.): Facing Fascism and Confronting the Past. German Women Writers from Weimar to the Present, Albany 2000, pp. 135–50, here p. 136; Värst, Christa: Dichtung und Sprachreflexion im Werk von Nelly Sachs, Frankfurt am Main 1977; Beil, Claudia: Sprache als Heimat. Jüdische Tradition und Exilerfahrung in der Lyrik von Nelly Sachs und Rose Ausländer, Munich 1991.

⁶ Hoyer, Jennifer: The Space of Words. Exile and Diaspora in the Works of Nelly Sachs, Rochester 2014.

⁷ Lermen, Birgit/Braun, Michael: Forschungsstand, in: Nelly Sachs - „an Letzter Atemspitze des Lebens“, Bonn 1998, pp. 9–19; Blomster, W.V.: A Theosophy of the Creative Word. The Zohar-Cycle of Nelly Sachs, in: The Germanic Review 44 (1969), 3, pp. 211–227; Dodds, Dinah: The Process of Renewal in Nelly Sachs’ Eli, in: The German Quarterly 49 (1976), 1, pp. 50–58; Gelber, Mark H.: Nelly Sachs und das Land Israel. Die mystisch-poetischen Funktionen der geographisch-räumlichen Assoziationen, in: Kessler, Michael/Wertheimer, Jürgen (Eds.): Nelly Sachs. Neue Interpretationen, Tübingen 1994.

theorize the space in which the lyrical I (and by extension the reader) finds itself. In the volumes *Und niemand weiß weiter* (1957; *And No One Knows How to Go on*), *Flucht und Verwandlung* (1959; *Flight and Metamorphosis*), *Noch feiert Tod das Leben* (1961; *Death Still Celebrates Life*), and the cycle “Fahrt ins Staublose” (1961; *Journey into a Dustless Realm*) she goes so far as to use the word “Geometrie” to discuss subjectivity as well as both the power and the limits of logic.

Before proceeding to Sachs’ poetry, I believe some explanation of an intersection of mathematics and poetry is necessary. In positing this relationship, in particular as I see it in the work of Nelly Sachs, I follow in the footsteps of writers such as Novalis (Friedrich von Hardenberg, 1772–1801), who sought and theorized intersections of mathematics and literature, and scholars such as Käte Hamburger, Howard Pollack, Knut Radbruch, and Manuel Illi, all of whom have undertaken examinations of mathematical terminology in German literature.⁸ Hamburger’s and Pollack’s work in particular serves as a springboard for my analysis. Though their assessments of Novalis’ interest in calculus differ, each posits that Novalis explores varying approaches to calculus and problems within it for their applicability and meaning for non-mathematical realms.⁹ Mathematicians Mark Huber and Gizem Karaali approach a related affinity from the opposite direction: “Mathematicians are justifiably proud of the elegance of their symbols, definitions, and proofs. But at the end of the day, the basic notions in mathematics are described by words, and exploring the words of mathematics leads us to the humanistic questions of understanding and interpretation that make the study of great literature so open-ended.”¹⁰ Which is to say: mathematics and literature share a capacity to question and theorize what we can know and how we know it.

When I speak of an intersection of mathematics and poetry, I am not speaking of rhyme and meter, or of mathematical problems translated to poetry or vice versa, but rather of the place where the impulses and aims of mathematics and poetry overlap. While they may seem to be incompatible modes of thought and expression, they share similar properties. Mathematics is the study not only of quantity, but of abstract patterns in all manner of objects, operations, and behaviors.¹¹ What Keith Devlin writes of mathematics holds for poetry also: “The recognition of abstract concepts and the development of an appropriate language to represent them are really two sides of the same coin.”¹² Lyric poetry in particular operates similarly: the lyric poet attempts to develop an appropriate language to represent an individual’s experience; in exploring and

⁸ Hamburger, Käte: Novalis und die Mathematik. Eine Studie zur Erkenntnistheorie der Romantik, in: Kluckhohn, Paul/Rothacker, Erich (Eds.): Romantikforschungen (= Deutsche Vierteljahrsschrift für Literaturwissenschaft und Geistesgeschichte, Bd. 16), Halle 1929, pp. 113–184; Radbruch, Knut: Mathematische Spuren in der Literatur, Darmstadt, 1997; Illi, Manuel: Die Mathematik beim Wort nehmen – der Poesie die Zahl geben, in: Heydenreich, Aura/Mecke, Klaus (Eds.): Quarks and Letters. Naturwissenschaften in der Literatur und Kultur der Gegenwart, Berlin 2015, online: <https://books.google.com/books?id=qollCwAAQBAJ&pg=PA175&lpq=PA175&dq=Die+Mathematik+beim+Wort+nehmen+-+der+Poesie+die+Zahl+geben&source=bl&ots=4QA62fv9VG&sig=4XvB35xQ5mhfNdGAui7KVcmhG4&hl=en&sa=X&ved=oahUKEwixmfSCopnWAhUY22MKHbamC3gQ6AEIMTAC#v=onepage&q=Die+Mathematik+beim+Wort+nehmen+-+der+Poesie+die+Zahl+geben&f=false> [04.09.2017].

⁹ Pollack, Howard: Novalis and Mathematics Revisited: Paradoxes of the Infinite in the Allgemeine Brouillon, in: Athenäum Jahrbuch für Romantik 7 (1997), pp. 113–140, here p. 114.

¹⁰ Huber, Mark/Karaali, Gizem: Words, Words, Words, in: Journal of Humanistic Mathematics 7 (2017) 2, pp. 1–3, here p. 1, online: <http://scholarship.claremont.edu/jhm/vol7/iss2/2> [05.09.2017].

¹¹ Devlin, Keith: The Language of Mathematics. Making the invisible visible, New York 2000, p. 3.

¹² Devlin, Mathematics, 2000, p. 8.

expressing individual perception, the lyric poet recognizes abstract concepts, such as emotion or cognition, and attempts the most precise description possible of this perception. Where mathematics and poetry have the most in common is in the aim for precision in describing the abstract patterns observed in the experience of empirical reality. Mathematics requires the rigor of textual proof, precise statements that define relationships and patterns we see and attempt to describe. The lyric poet attempts to rigorously describe, as precisely as possible, the individual experience of reality. In both mathematics and poetry, we have a text that aims for precision in its description of experience, and in both cases, this can take astonishingly simple, elegant form, especially when the content proves to be complex and challenging to comprehend. We experience natural numbers as either odd or even, for example, or we perceive that there are infinitely many natural numbers; there are mathematical proofs for each that make the best case, based on what we know, what we perceive, and logical deduction, for the validity of these statements. We experience a sudden moment of curiosity, or we perceive that the universe is infinite; there are lyric poems for each that attempt to precisely convey the experience, based on what we know, what we perceive, and (if not always conventionally 'logical,' still by way of *logos*) connectable relationships, to convey the validity of the experience. Mathematicians attempt to define patterns for which we previously had neither the tools nor the language; in their attempt to describe experiences, whether simple or deeply complex, poets often push language beyond its conventional limits, into territory for which we previously had neither the tools nor the language. Thus, both mathematics and poetry are methods through which humanity attempts to apprehend the world in which we exist. Where they diverge is in a fundamental assumption: mathematics aims to show the universal divorced from the subjective, whereas poetry aims to show the universal *by way of* the subjective. Where mathematics views the subject as a hurdle to apprehension, poetry views the subject as a necessary precondition for any apprehension. This is the point where Sachs' intersection of geometry and lyric poetry is located. In her work, the mathematical becomes a set of terms through which to explore what the individual experiences and can and cannot know; her poems highlight different ways in which even the mathematical, as a mode of knowledge, cannot be separated from the subject position.

It is difficult to establish with any certainty how or when Sachs engaged in any study of mathematics. As a schoolgirl, she was likely exposed to arithmetic and applied mathematics appropriate for the future housewife, as was standard educational practice at the time.¹³ Most of the mathematical references in her poetry, however, draw on a more abstract conception of geometry, exploring patterns and relationships rather than numerical calculation. There is no indication from her biographies or her correspondence that she had formal training in geometry; yet her poetry is brimming with imagery that suggests she must have been reading about ancient, early modern, and potentially even modern conceptions of it.

¹³ Fioretos, Aris: Nelly Sachs. Flight and Metamorphosis, Stanford 2011, pp. 20–21; Fritsch-Vivié, Gabriele: Nelly Sachs, Reinbek bei Hamburg 2010, p. 32; Great Britain. Board of Education/Helgesen, Helga/Forchhammer, Henni/Matheson, Marie Cecile: School Training for the Home Duties of Women. Part III. The Domestic Training of Girls in Germany and Austria (= Special Reports on Educational Subjects, Bd. 19), London 1907, online: https://books.google.com/books?id=fDgNAQAIAAJ&source=gbs_navlinks_s [24.08.2017].

It seems likely that Sachs' interest in geometry was ignited, at least to some extent, by her study of Jewish mysticism, and especially of the *Zohar*, the 13th-century Kabbalistic commentary on the Torah, which we know she eagerly read.¹⁴ The commentary on B'reishit in the *Zohar* speaks of signs engraved into "the heavenly sphere," and a "hidden, supernal point" that appears as the ideal thought of Creation.¹⁵ This is an iteration of 'sacred geometry,' which can be found across cultures, and attempts to describe spirituality and the divinely inspired cosmos in terms of especially spherical interrelationships. This iteration of sacred geometry as Sachs encountered it, probably through the work of Martin Buber and Gershom Scholem, includes the question of the distance between the human and the Divine, which she explores in the poem "David" (*Sternverdunkelung*, [Eclipse of the Stars] 1949): "Aber im Mannesjahr / maß er, ein Vater der Dichter, / in Verzweiflung / die Entfernung zu Gott aus" ("But in the year he came of age / he measured out in despair, / a father of poets, / the distance to God")— an attempt at spiritual orientation.¹⁶

Sachs' notion of geometry is largely located in the metaphysical, though it is not limited to Kabbalah. From the breadth of references in her postwar poetry, we can infer that she also explored cosmologies of ancient Egypt, ancient India, Babylonia, and especially ancient Greece. Here she would have found conceptions of geometry expressed in the measurement of space through simple geometric forms such as points, segments and circles, and constructions of pyramids, ziggurats, and labyrinths (all of which pervade her work), but that also explored the sphere of the Earth, the sphere of the sky, and the relationships of planets and stars to each other and to the Earth as a manner of establishing time and spatial location. Among her most frequent and consistent conceptual geometric evocations are the 'harmony' or 'music of the spheres,' arcs of time and projection, and astronomical constellations used to determine season and location.

While points, segments, lines, circles, spheres and spirals can be found throughout her postwar work, specific reference to "Geometrie" surfaces in 1957 and continues until the early 1960s, when she begins to refer instead to "die Mathematik."¹⁷ The preoccupation with geometry proper seems to coincide with a time during which she was delving into different kinds of philosophical and existential writings such as those by Albert Camus (1913–1960), Jean-Paul Sartre (1905–1980), Søren Kierkegaard (1813–1855), and Simone Weil (1909–1943), and it is in her unpublished prose from 1956 and 1957 where we come across a brief but potentially illuminating reference point: geometer-turned-theologian Blaise Pascal (1623–1662). It appears from her notes that between 1956 and 1957,¹⁸ Sachs was reading Pascal's *Pensées* (1670; Thoughts), a collection of numbered reflections and deductions on faith. While Pascal had given up his pursuit of mathematics generally and geometry specifically by the time he wrote *Pensées*, the text contains frequent observations

¹⁴ Sachs, *Gedichte 1940–1950*, Frankfurt am Main 2010, p. 15; Sachs, Nelly: Brief vom 06.11.1950 an Emilia Fogelklou-Norlind/Brief vom 15.12.1950 an Gudrun Dähnert/Brief vom 20.01.52 an Jacob Picard/Brief vom 30.07.1963 an Erik Lindgren, in: Dinesen, Ruth/Müssener, Helmut (Eds.): *Briefe der Nelly Sachs*, Frankfurt am Main 1985, pp. 125/125–7/137–9/294–5.

¹⁵ Scholem, Gershom (Ed.): *Zohar. The Book of Splendor. Basic Readings from the Kabbalah*, New York 1963, p. 3.

¹⁶ Sachs, *Gedichte 1940–1950*, 2010, p. 65; Sachs, Nelly: David, in: Mead, Ruth/Mead, Matthew/Hamburger, Michael (Eds.): *The Seeker and Other Poems*, New York 1970, p. 97.

¹⁷ Sachs, *Gedichte 1951–1970*, 2010, p. 157.

¹⁸ Sachs, Nelly: *Weitere Aufzeichnungen*, in: Fioretos, Aris (Ed.): *Nelly Sachs. Prosa und Übertragungen* (= Nelly Sachs Werke Kommentierte Ausgabe in vier Bänden, Bd. 4), Frankfurt am Main 2010, pp. 66–67.

about and references to mathematics, and indeed appears to be a hybrid text that uses the structure and logic of a mathematical proof to explore the validity of the Christian faith. It notably contains many ideas about infinity, finitude, the heavens, and mass and distance that resonate with sacred geometry and Sachs' poetry. Perhaps more illuminating even than this is the beginning of *Pensées*, in which Pascal describes the difference between the intuitive and the mathematical mind, arguing that each is too limited, and that a combination of subjective vision with mathematical reasoning would be preferable.¹⁹ It would thus seem that, between Jewish mysticism, ancient Greek, Egyptian, Babylonian and Indian geometry, and early modern metaphysics, Sachs had access to an array of fundamental ideas about geometry that encouraged its application beyond numeric calculation. She translated those ideas to questions of spirituality, time, space and epistemology that permeated the post-Second-World-War era.

The absolute and radical significance of the subject position— the individual or the *I*— takes on special urgency in Sachs' postwar work. The fundamentally subjective nature of lyric poetry was essential in writing poetry in the German language in the wake of the Nazi regime, whose central policy was erasure of the individual. Under National Socialism, the individual was either replaced by over-identification with the National Socialist State or eradicated as an enemy of the people, a task the Nazis first undertook in their use of language through simplistic slogans, labels, and euphemisms. German was regarded as a ruined language in the immediate aftermath of World War II, and writing poetry after the Holocaust seemed impossible. For Nelly Sachs, as for many poets, writing poetry after Auschwitz was necessary: poets had the crucial job of confronting events that defied narrative and conventional logic, and for which there were no words. The lyrical *I* and the capacity for experimentation with language meant that lyric poetry had the potential to reinstate the meaning and sovereignty of the individual, to require the self to articulate both its experience and its culpability. In so doing, the poet could also interrogate the limits of conventional epistemologies and modes of reading. Sachs always remained steadfast in insisting that her poetry said what it said and did not require explanation— even at the Nobel Prize ceremony in 1966 where rather than giving a speech or making any kind of pronouncement, she gave a short autobiography and then read her poem "In der Flucht" ("Fleeing"), which ends with the lines: "An Stelle von Heimat / halte ich die Verwandlungen der Welt" ("I hold instead of a homeland / the metamorphoses of the world").²⁰ This is the recognition that the *diasporic I* is always surveying and describing the dynamic reality in which it exists. In their work on the "paradoxical power of diaspora," Jonathan and Daniel Boyarin articulate that "On the one hand, everything that defines us is compounded of all the questions of our ancestors. On the other hand, everything is permanently at risk."²¹ In Sachs' work, everything is always at risk, because the world is constantly in flux; the points by which we attempt to orient ourselves are the experiences and questions of the ancestors, Jewish and gentile alike. These, too, are always in flux, thus the power articulated in Sachs' diasporic poetics advocates for an *I*

¹⁹ Pascal, Blaise: *Pensées*, Infomotions, Inc., 2000, pp. 1–9, online: <http://o-ebookcentral.proquest.com.library.uark.edu/lib/uark-ebooks/detail.action?docID=3314664> [01.09.2017].

²⁰ Sachs, *Gedichte 1951–1970*, 2010, p. 74; Sachs, Nelly: *Fleeing*, in: Hamburger, Michael/Holme, Christopher/Mead, Ruth/Mead, Matthew (Eds.): *O The Chimneys. Selected Poems, including the verse play, Eli*, New York 1967, p. 145.

²¹ Boyarin, Daniel/Boyarin, Jonathan: *The Powers of Diaspora*, Minneapolis 2002, p. 4.

who insists on its own subject position and has awareness that everything, no matter how permanent, divine, or absolute it might seem, is the product of human imagination. This compels the individual to recognize both its power and its responsibility.

The *I* and the words of an *I* can be easily silenced, a problem that Sachs treats in her poem “Völker der Erde” (“Peoples of the Earth,” from the era of *Sternverdunkelung*).²² A person thoughtlessly, carelessly taking on the words of another suggests propaganda or demagoguery: “O daß nicht Einer Tod meine, wenn er Leben sagt – / und nicht Einer Blut, wenn er Wiege spricht –” (“O that no one mean death when he says life – / and not blood when he speaks cradle –”). Language can also become confused hollow noise, as was the case with Nazi-Deutsch, in which the individual is not only silenced, it is coerced into committing acts of mindless violence in the service of an ‘us vs. them’ mentality: “die ihr in die Sprachverwirrung steigt / wie in Bienenkörbe, / um im Süßen zu stechen / und gestochen zu werden” (“you who enter the tangle of tongues / as into beehives, / to sting the sweetness / and be stung –”). This poem furthermore contains the lines: “Völker der Erde / lasset die Worte an ihrer Quelle” (“Peoples of the earth, / leave the words at their source”). I interpret this “Quelle” as the individual, since otherwise in the poem, the lyrical *I* speaks of groups who develop, embrace, and advance accepted signifiers. Human beings are quick to ascribe complex phenomena like constellations and language to the divine; but this poem casts both, as well as the violence committed through them, as the ultimate work of the human mind. Thus, the individual is called to acts of language. Where Sachs writes “Völker der Erde / lasset die Worte,” I see an implied reciprocal: Individual / raise your own voice. This requires that the individual acknowledge a reality in which systems of patterns for orienting the self in time and space – from constellations and Euclidian space to faith and the nation-state – are at best temporarily viable, not absolute; the individual nonetheless needs to orient itself somehow. Much of Nelly Sachs’ poetry is an attempt to map out both the contours of radical subjectivity and the dynamic world it must navigate, using the only tools available: remnants of epistemological patterns of our ancestors.

Quite often in Sachs’ poems, the lyrical *I* tries to understand many kinds of relationships either in terms of the space they occupy, or the manner in which they divide space. The attempt is most frequently expressed as a question of location: through points and line segments, in terms of shapes, or in terms of ratios. In the poems of the cycle “Gebete für den toten Bräutigam” (Prayers for the Dead Bridegroom) (from *In den Wohnungen des Todes* [In the Dwellings of Death], 1947), the lyrical *I* is directly engaged in orienting itself in space and time, in relation to a traumatic loss about which it has no specific data. In the poem “Auch Dir, du mein Geliebter”²³ (“Two hands, born to give”)²⁴ for example, the lyrical *I* asks “Aber wer weiß, wo noch ein letzter lebendiger / Hauch wohnt?” (“But who knows where a last living breath / Still dwells?”) and then states: “Während der kurzen Trennung / Zwischen deinem Blut und der Erde / Haben sie Sand hineingespart wie eine Stundenuhr / Die jeden Augenblick Tod füllt” (“During the short parting / Between your blood and earth / They trickled sand like an hourglass / Which fills each moment with death”). The lyrical *I*, separated in space and time from the Bridegroom,

²² Sachs, *Gedichte 1940–1950*, 2010, pp. 91–92; Sachs, *O the Chimneys*, 1967, p. 93.

²³ Sachs, *Gedichte 1940–1950*, 2010, pp. 21–22.

²⁴ Sachs, *The Seeker*, 1970, p. 27.

attempts to envision the shape and size of the conditions of the Bridegroom's last moment. The indirect question "wo noch ein letzter lebendiger Hauch wohnt" phrases an attempt at imagining the death of a loved one in terms of spatial time: who can locate the point where (and when) a final breath resides. The indirect question also allows the lyrical I to emphasize the impossibility of locating this point. It conceives of time as a space, though the form of this space is unclear. The lyrical I is also trying to map out the space. In the lines in which the lyrical I considers "die kurze Trennung / Zwischen deinem Blut und der Erde," it is attempting to imagine an empty space ("Trennung") as a measurable ("kurze") length. It is thus attempting to work out the form of this spatial time, first through a two-dimensional line segment (the "kurze Trennung") between two points ("deinem Blut und der Erde"); the line segment then changes to a three-dimensional figure: "eine Stundenuhr / Die jeden Augenblick Tod füllt." Its three-dimensionality is highlighted not only in the indication, by way of the verb "füllen," of volume, but also in that the hourglass is an object that must be turned repeatedly, thus it moves in three-dimensional space. The lyrical I seeks both the location and the length of this moment in order to understand what happened, where, and when. Perhaps more importantly, this task of locating a specific moment is necessary so that the lyrical I can orient itself. Where it is now and what it does from this point forward is dependent on its proximity to this un-locatable traumatic moment.

Much of Sachs' poetry functions in this way. The lyrical I unceasingly asks what happened and when, but also where it is now and what it should do; unable to map out any certain, meaningful points, it ceaselessly wanders in a space it cannot define. Adopting the terms and ideas of geometry asserts a need for empirical precision and certainty in a diasporic existence. But what we tend to find in Sachs' poems is, interestingly, exposure of the limits of geometry, precisely because it depends on a certain amount of stasis, a clear starting point. In the above poem, for example, the lyrical I is faced with the impossible task of locating a point that clearly must exist in time and in space, but, lacking necessary information, the lyrical I has no access to this point. It is a necessary and yet an unfixable point, and thus the lyrical I cannot establish its own current point, cannot orient itself in the present.

A different approach to orientation in time and space appears in the poem "Einer war, / Der blies den Schofar"²⁵ ("Someone / Blew the Shofar"),²⁶ from the cycle "Dein Leib im Rauch durch die Luft" (Your Body in Smoke through the Air, from *In den Wohnungen des Todes*). This poem and its cycle are heavily circle-based. The cycle as a form implies circular motion, a point to which I will return at the end of this essay. The object of the shofar itself represents a curved line or even a spiral; the three-dimensional object is a hollowed-out horn, thus its interior is circular; at either end of the shofar (the mouthpiece or the bell) is a circle. The events in the poem emanate from within the shofar and then exist around it. Intriguingly, this is the seventh poem in a cycle of thirteen, and describes the blowing of the shofar at Rosh Hashanah, which takes place in the seventh month of the year, so the cycle mimics both the cycle of one year and also the number of tones in the distinct blasts (*tekia*, *shevarim*, and *terua*) combined.

²⁵ Sachs, *Gedichte 1940–1950*, 2010, pp. 15–16.

²⁶ Sachs, *The Seeker*, 1970, p. 13.

In the textual space of this poem, there is first bodily movement in three-dimensional space: the “Einer” who blows the shofar fills and moves through space as he “Warf nach hinten das Haupt” (“Threw back his head”) and blows. The poem shifts in this act from past tense (“warf”) to present tense (“bläst”), demonstrating how the concept of time shifts in the act of blowing the shofar. First within and then around the shofar, the thirteen tones resonate. Through and in the notes emanating from the shofar, and then around the shofar (“um den Schofar”), a space emerges in which numerous past events from numerous epochs become present and occupy space. The Earth “kreist” (circles) and the stars “kreisen” (circle); the temple burns, falls, and the ashes rest; the poem does not come to a close, suggesting this continues for all events in all time. In keeping with Jewish textual time, in which Jews from all eras are present for all events and are moreover engaged across time in dialogue,²⁷ time is not linear, but circular, so that all time is effectively always present— even as new experiences accrete. Thus, we the readers are also present, as is the poet, as are the shofar blasts, and all that emerges from them in the text. The question of where and when we are, in relation to the “Einer,” the shofar, the blasts of the shofar, the poet, and most importantly in relationship to the objects and events that emerge from and circle around the shofar, is implied in the poem. The point of the shofar blasts at Rosh Hashanah is to give the hearer space to contemplate his or her proximity to major events in Jewish history, from Creation to the present moment. This collapse of time has the critical social justice function of compelling participants to understand what it means to come into being, to be enslaved, persecuted, traumatized, and liberated. But how does the *I* (both lyrical *I* and the reader) orient itself in an infinite non-linear time-space?

This crisis of orientation is very much representative of the postwar era, and has as its consequence a disillusionment with past assumptions about certainty in observed patterns. The epistemologies humanity depended on since Antiquity proved in the postwar era to be inadequate for current challenges, which then prompts Sachs to explore their limits and assumptions. In the many orientation attempts of Sachs’ postwar poetry, the lyrical *I* often reaches for the oldest and most famous geometric ideas that offer proof of an aesthetically pleasing order in the world, most particularly the concept of the ‘harmony of the spheres’ attributed to Pythagoras of Samos (ca. 570–ca. 500 BCE) and Aristotle (384–322 BCE). The ‘harmony of the spheres,’ which appears in numerous Sachs poems beginning in her earliest postwar poetry, conceives of the universe as a series of spheres whose relationships correspond to rational mathematical relationships like those of the intervals between musical tones. Since the cosmos was presumed to represent a model for smaller phenomena, and it was harmonically ordered, it was assumed that there must be a harmonic, spherical structure that governs all things in the universe, large and small. In many Sachs poems, for example in the poem cycle “Grabschriften in die Luft geschrieben”²⁸ (Gravescripts written into the Air, from *Sternverdunkelung*), a subject appears who seems to mishear or simply not hear the “Sphärenharmonie,” or its variations the “Musik der Welten” (music of the worlds) or “Sternmusik” (star music), and as a result, the person perishes. They have refused to comprehend the order that governs all objects and actions in the universe, thus they miss a vital cue and are murdered. This is

²⁷ Boyarin, Jonathan: *Storm from Paradise. The Politics of Jewish Memory*, Minneapolis 1992, pp. xvi–xvii.

²⁸ Sachs, *Gedichte 1940–1950*, 2010, pp. 26–31.

a dark interpretation of rational order; according to this conception, the mass murder of the Nazi regime is the universal geometric code that the Jews fail to heed. This also alludes to the long-standing issue that the Jews of the Diaspora fail to fit themselves into the long history of solipsism that has governed most of Western civilization, for which the Boyarins suggest Nimrod was punished.²⁹ Following this through to its logical conclusion, we find one of the limitations of geometry as it has long existed: Euclidian geometry depends on a static universe and requires simply accepting, without proof, certain assumptions about mathematical objects. The establishment, post-Kant, that reality is not static and that mathematical definitions are ultimately the work of the limited faculties of the human mind ultimately led to the modernist turn in mathematics and physics, which was eventually demonized by the Nazis as 'Jewish science.' The Diaspora recognizes non-linear time; the wandering of the Diaspora and the marginalized existence of Jews recognizes a dynamic, non-static reality. The Diasporic existence of the Jews had long been regarded as a threat to national sovereignty; indeed this was the original *Judenfrage* (the Jewish question) that the Nazis determined to answer through genocide.

On the other hand, Sachs was not convinced that Nazi mass murder belonged to the harmony of the spheres, as we see in the poem "Auf dass die Verfolgten nicht Verfolger werden" ("That the persecuted may not become persecutors," from *Sternverdunkelung*).³⁰ The poem begins with a question of orientation: "Schritte – / In welchen Grotten der Echos / seid ihr bewahrt, / die ihr den Ohren einst weissaget / kommenden Tod?" ("Footsteps – / In which of Echo's grottoes / are you preserved, / you who once prophesied aloud / the coming of death?") and also ends with a question of orientation: "In der Musik der Sphären / wo schrillt euer Ton?" ("Where does your note shrill / in the music of the spheres?"). Where are these footsteps? And where are the persecuted in relationship to them? If the lyrical I can locate them in the harmony of the spheres it can orient itself, and then help the persecuted to likewise orient themselves so that they can make sure not to find themselves on that point. But beyond this very practical task, the lyrical I is also asking how to use this classical governing geometric concept in an attempt to make sense of its current reality. The footsteps existed; they kept time, they were even the "Sekundenzeiger im Gang der Erde" ("sweep-hand in earth's orbit").³¹ But where do they belong in the harmony of the spheres? Here, the lyrical I is attempting to reconcile a classical mathematical-philosophical model with a reality it experiences; but the poem ends with a question, not an answer. The lyrical I is not certain that these "Schritte," which did and do exist, can be described by the model of the harmony of the spheres. Since the "Schritte" are real, it is the model that is in question here. The lyrical I tries to find rational patterns by which to describe reality and orient itself, but the rational patterns are always changing, and often prove to be irrational. How, then, can anyone know how to go on?

In 1957, Sachs published the collection *Und Niemand Weiss Weiter* (*And No One Knows How to Go on*), her first poetry collection to include not only the consistent references to points, lines, and shapes, but also a poem using the word "Geometrie." This signals a

²⁹ Boyarin/Boyarin, *Powers of Diaspora*, 2002, pp. 2–3.

³⁰ Sachs, *Gedichte 1940–1950*, 2010, p. 49–50; Sachs, *O the Chimneys*, 1967, pp. 55; 57.

³¹ Sachs, *Gedichte 1940–1950*, 2010, p. 50; Sachs, *O the Chimneys*, 1967, p. 57.

phase of preoccupation: the collections she published between 1957 and 1961, in fact, all contain poems that feature the word “Geometrie:” *Flucht und Verwandlung* (*Flight and Metamorphosis*) contains three; “Fahrt ins Staublose” (*Journey Into a Dustless Realm*) contains one; *Noch feiert Tod das Leben* (*Death Still Celebrates Life*) contains two. In order to sketch out the lyrical functions of “Geometrie” proper in Sachs’ work, I will briefly discuss its occurrence in three of Sachs’ poems: “O Schwester / wo zeltest du” (“O sister / where do you pitch your tent;” *Und Niemand Weiss Weiter*), “Der Schwan” (“The swan;” “Fahrt ins Staublose”), and “Die gekrümmte Linie des Leidens” (The curved line of affliction; *Noch Feiert Tod das Leben*). Each of these poems approaches the branch of geometry from a slightly different angle; all explore the power and the limitations of the human mind in theorizing governing patterns via individual experience of reality.

The poem “O Schwester / wo zeltest du”³² deals in particular with dynamic change and the subjective nature of geometry. The lyrical I of the poem addresses a “Schwester,” someone who has become detached from conventional reality and whose mind is, for the lyrical I and any onlooker, difficult to locate. She is clearly not *here*, thus the poem begins with a question of where she might be:

O Schwester
wo zeltest du?

Im schwarzen Geflügelhof
lockst du die Küken deines Wahnsinns
fütterst sie groß.

Wunden in die Luft
kräht des Hahnes Trompete –

Wie ein entblößter Vogel
bist du aus dem Nest gefallen
Spaziergänger beäugen
das Schamlose.

Mit dem Alldruckbesen
kehrst du heimattreu
die rauchenden Meteore
vor des Paradieses Flammenpforte
hin und zurück ...

Dynamit der Ungeduld
stößt dich zu tanzen
auf den schiefen Blitzen der Erleuchtung.

³² Sachs, *Gedichte 1951–1970*, 2010, pp. 54–55. Suhrkamp Verlag granted permission for reprinting the poems “O Schwester / wo zeltest du”, “Der Schwan”, “Die gekrümmte Linie des Leidens” from: Nelly Sachs, *Werke. Kommentierte Ausgabe in vier Bänden*. Ed. by Aris Fioretos. Band 2: *Gedichte 1951–1970*. Ed. by Ariane Huml and Matthias Weichelt. © Suhrkamp Verlag Berlin 2010.

Dein Leib klafft Aussichtspunkte
Verlorenes Pyramidenmaß
holst du herein
Vögel
die auf deinem Augenast sitzen
zwitschern dir die blühende Geometrie
einer Sternenzeichnung.

In deiner Hand
verpuppten Rätselmoos
wickelt sich die Nacht aus

bis du den flügelatmenden Morgenfalter hältst
zuckend –
zuckend –
mit einem Schrei
trinkst du sein Blut.

[O sister,
where do you pitch your tent?

In the black chicken-run
you call the brood of your madness
and rear them.

The cock's trumpet
crows wounds into the air–

You have fallen from the nest
like a naked bird
passers-by eye
that brazenness.

True to your native land
you sweep the roaring meteors
back and forth with a nightmare broom
before the flaming gates of paradise ...

Dynamite of impatience
pushes you out to dance
on the tilted flashes of inspiration.

Your body gapes points of view
you recover the lost
dimensions of the pyramids

Birds
sitting in the branches of your eye
twitter to you the blossoming geometry
of a map of stars.
Night unfolds
a chrysalis of enigmatic moss
in your hand

until you hold the wing-breathing butterfly of morning
quivering–
quivering–
with a cry
you drink its blood.]³³

Mired as the mind of the “Schwester” is in a state of detachment from conventional reality, it nonetheless has access to logic. This human brain has insight into both lost and new geometric relationships, and even seems to represent an unheard-of relationship to points. In the lines “Vögel / die auf deinem Augenast sitzen / zwitschern dir die blühende Geometrie einer Sternenzeichnung,” we are given an image of the internal space of this mind. Sitting on the eyestalks, thus located between the eyes and the brain, “Vögel,” an entity representative of the natural world but also the subjective workings of an unconventional mind, twitter a geometry (an entire system of thought) that is in the process of blossoming– not yet finished, and presumably ultimately wilting. It is a blossoming geometry of a constellation, possibly one that only the “Schwester” grasps and thus alone sees. The preceding stanza suggests that the “Schwester,” unchained from the conventional boundaries of empirical reality, thinks beyond the boundaries of Euclidian geometry: “Dein Leib klafft Aussichtspunkte / Verlorenes Pyramidenmaß / holst du herein.” She not only has access to lost geometry (the measurement of the pyramid); the descriptive language her experience demands from the poet pushes grammar and indeed basic geometric concepts close to the realm of other much more complex branches of theoretical mathematics, such as topology.

The verse “Dein Leib klafft Aussichtspunkte” gives rise to many questions. The verb “klaffen” is intransitive; is the verb transformed into a transitive verb? And if so, what is the consequence of a body that “klafft Aussichtspunkte,” gapes or yawns subjective points of vision? Or does the verb remain intransitive, and if so, does that then mean that the body itself “klafft,” and that the spaces that result are “Aussichtspunkte”? Can points (“Aussichtspunkte”) still be points if they are openings, the *Zwischenräume* and *Spalten* that result from the verb “klaffen”? In any of these cases, the language usage of the poem dismantles conventional boundaries of logic, whether grammatical or mathematical. “Geometrie” here represents a subjective system for perceiving space; it can be lost and revised, it is dictated to a self from the self’s own conception of nature, and because it can blossom, it can presumably also evolve, and then die.

³³ Sachs, O the Chimneys, 1967, p. 135; p. 137. Reprinted by permission of Farrar, Straus and Giroux: “O sister,” “The swan,” and “The contorted line of suffering” from O THE CHIMNEYS by Nelly Sachs. Translation copyright © 1967, renewed 1995 by Farrar, Straus & Giroux, Inc.

The entire poem (like the cycle of which it is part) points to the notion that accepted epistemologies (to borrow a term from cultural theorist Jack Halberstam) do not always conform to actual individual experience. They are theorized, lost, rediscovered, dismantled, and rewritten, generally by those minds that see beyond the limitations of convention (and are often initially dismissed as ‘insane’). Thus, we see in this poem that Sachs, in attempting to orient the insane woman who is both subject and object in this poem, is working consciously with the potential of both mathematics and lyric poetry to theorize an individual experience of reality that is authentic, real, and for which we may not yet have words.

The poem “Der Schwan,”³⁴ from “Fahrt ins Staublose,” focuses on a different insight into the history and significance of geometry. In this cycle, as in many others, Sachs refers in numerous ways to the cosmos and the bodies that move through it. And yet, the cycle bears the name “Journey into Dustlessness,” suggesting that through the cycle, there is attempted or unavoidable movement into something beyond “dust,” beyond the remnant of the physical universe. The cycle is permeated with imagery that describes different modes of (dis)orientation and ceaseless flux, including repeated creation and disintegration, blossoming and wilting minerals in the universe, the repeating transition from night to day, abstractions made physical, and translating signifiers that are tangible yet intangible. In “Der Schwan,” we see a lyrical I reflecting on a constellation, which touches on many of these modes.

Der Schwan
Nichts
über den Wassern
und schon hängt am Augenschlag
schwanenhafte Geometrie
wasserbewurzelt
aufrankend
und wieder geneigt
Staubschluckend
und mit der Luft maßnehmend
am Weltall –

[The swan
Nothing
above the waters
and at once on the flick of an eye
is suspended
swanlike geometry
rooted in water
vining up
and bowed again
Swallowing dust
and measuring the universe
with air –]³⁵

³⁴ Sachs, *Gedichte 1951–1970*, 2010, p. 124.

³⁵ Sachs, *O the Chimneys*, 1967, p. 201.

The first verse signifies empty space, “Nichts,” and in the following stanzas the lyrical I examines suddenly appearing “schwanenhafte Geometrie” (“swanlike geometry”), which I take to be the constellation of Cygnus. In the spectrum of Sachs’ themes, “geometry” seems to be very closely associated with the perceptions of shapes and patterns in the stars, constellations that historically serve various functions of orientation. Most of the constellations she frequently invokes, for example Aries, Taurus, and Sagittarius, possess astrological as well as astronomical significance; among those she invokes that are primarily of astronomical significance are Cygnus and the Pleiades. What a constellation also does is represent culturally significant myths, an attribute of constellations that Sachs also associates with cultural hegemony. In the poem “Völker der Erde,” for example, any ruling power can unravel the shapes in the stars and replace them with their own. This geometry in the stars allows a person to orient him- or herself in time, space, and within or in proximity to a culture.

“Der Schwan” suggests all three, and adds the potential for a further, more modern manner of signification for the constellation. At first, the lyrical I sees nothing; it then sees points on a plane that are not actually connected to one another, but that are connected by the human mind with imagined line segments, in this case Cygnus. This series of stars is most visible for the northern hemisphere, and it is most prominent during the summer; described as it is here, the lyrical I can be oriented generally in seasonal as well as clock time and in geographical space, a process possible through the spherical geometry used in the ancient world to map the spheres of the Earth and the sky. However, because the constellation’s position relative to the Earth changes as Earth rotates, and its position relative to the northern hemisphere changes as Earth progresses along its orbit around the sun, more specific orientation in time and space via Cygnus (or any constellation) theoretically requires continual recalculation and thus reorientation. The lyrical I signals a sense that the constellation is both constant and yet always in flux in that it appears rooted in the water, actively “aufsteigend” (“rising up”), but at the same “wieder geneigt” (“bowed again”)— a continual process. While the stars are certainly made of dust, the constellation is an abstraction, so the manner in which this swanlike geometry is “Staubschluckend” (“Swallowing dust”) could be multifaceted. It may be that the lyrical I is reflecting on the creation of stars and galaxies (through accumulating dust), or it may be that the lyrical I is reflecting on the process of “catasterism,” in which bodies (dust) are transformed into constellations representing myths.

The question of which myth Cygnus represents has no clear answer. It is frequently linked to the story of Leda and the swan, but is also connected to other figures in mythology that became swans, including Orpheus. While the Orpheus myth may seem the most natural one for Sachs the poet given her Kabbalistic association of letter and word to Creation, the flux and disorientation that characterizes the cycle “Fahrt ins Staublose” can also accommodate the plurality of myths associated with the constellation. How one interprets or even mentally constructs the shape depends on the preferred myth – and this can also include the common tactic of finding Cygnus by locating two of its associated (but culturally very different) shapes: the Summer Triangle, or the Northern Cross. In one “schwanenhafte Geometrie,” we are afforded at least three geometric objects.

The poem ends with the ambiguous but rich broken thought: “und mit der Luft maßnehmend / am Weltall –” (“and measuring the universe / with air –”). The journey into dustlessness would move away from physical measurement, and yet this constellation is actively associated with exactly that process. While it is clear that Sachs had some knowledge of astrology and astronomy, there are no indications of the extent of her knowledge. The inclusion of measurement of the universe with Cygnus, however, suggests Sachs might have been aware that Cygnus does, in fact, play a fundamental role in nineteenth- and twentieth-century efforts to map out and measure the universe. In 1837–1838, for example, German mathematician and astronomer Friedrich Wilhelm Bessel was the first to measure the distance of a star, 61 Cygni (part of Cygnus), from Earth in light years. This “schwanenhafte Geometrie,” then, can represent not only what we can measure and thus know about the spheres of Earth and sky, but also the structures we imagine and invent. Which is to say: we orient ourselves according to things that are not actually there, but that we perceive through geometric shapes and objects.

My final example for sketching out Sachs’ geometric poetics is the poem “Die gekrümmte Linie des Leidens”³⁶ from the collection *Noch feiert Tod das Leben*.

Die gekrümmte Linie des Leidens
nachtastend die göttlich entzündete Geometrie
des Weltalls
immer auf der Leuchtspur zu dir
und verdunkelt wieder in der Fallsucht
dieser Ungeduld ans Ende zu kommen –

Und hier in den vier Wänden nichts
als die malende Hand der Zeit
der Ewigkeit Embryo
mit dem Urlicht über dem Haupte
und das Herz der gefesselte Flüchtling
springend aus seiner Berufung: Wunde zu sein –

[The contorted line of suffering
retracing the supernally ignited geometry
of the cosmos
always on the gleaming tracer path to you
and obscured again in the epilepsy
of this impatience to reach the end–

And in these four walls here nothing
but the painting hand of time
eternity’s embryo
with primordial light on the brow
and the heart the shackled fugitive
leaping out of its calling: to be a wound–]³⁷

³⁶ Sachs, *Gedichte 1951–1970*, 2010, p. 149.

³⁷ Sachs, *O the Chimneys*, 1967, p. 235.

The poem begins with a geometric concept: a “gekrümmte Linie,” a curved line (although the translator has chosen “contorted,” the geometric term seems more appropriate in this poem). But this is no ordinary curved line: it is the curved line of affliction. The concept of “Leiden” (suffering or affliction– I use affliction, because the syntax recalls the ‘bread of affliction’), so central to Jewish thought, is conceived here as a geometric object, moreover one in motion. Why exactly it is conceived of in this way has to do with the second and third verses: “nachtastend die göttlich entzündete Geometrie / des Weltalls.” Here again we see something like the harmony of the spheres shimmering through, a structure for the divine order of the universe. A “gekrümmte Linie” should theoretically belong to such a structure, and yet this “gekrümmte Linie des Leidens” is “nachtastend:” it seeks the divine geometry, follows it, tries to come into contact with it. This would mean that it does exist, but outside the accepted (desired?) boundaries of what we recognize as space. The poem preceding this one, “Ich kenne nicht den Raum”³⁸ (I do not know the space) describes an unknown space that must exist, constructed not only of spatial objects, but also of accretions of experience (“das Wachstum in die Wirklichkeit”). The “gekrümmte Linie des Leidens” represents an attempt to introduce experience into an object-based space conceived geometrically. The boundaries of this reality in the poem are frustrating for the curved line of affliction. As a line, which is infinite, curving and approaching but not reaching an end, the curved line of affliction suggests a confluence of sacred and spherical geometry with calculus. The line does not belong in this “göttlich entzündete Geometrie” (“supernally ignited geometry”), and yet it also cannot find its way beyond its boundaries. This means that the geometries as they have historically been conceived cannot yet actually accommodate “das Weltall,” which is to say, literally, a totality of all things in the world. Sachs seems extremely interested in the idea of a geometry; but the current state of geometry, which is a primary tool for orientation, is far too limited. Perhaps in the space of words, perhaps in the space of the text, where the poet works to precisely describe the individual experience of reality, we can reach a breakthrough or a point where two branches of thought intersect, where we can begin to theorize a more thorough, realistic, differentiated understanding of a dynamic reality and individual experience. The wandering postwar self, for whom everything– including the questions of our ancestors– is at risk, finds itself compelled to explore territory for which our tools and language are insufficient. Sachs’ poetry suggests that there may well be a practical and productive outcome to combining the lyrical with the mathematical.

The near-constant presence in Sachs’ work of mathematics is primarily a postwar phenomenon that begins with line segments, shapes, and points, eventually transitioning into specific invocations of geometry. Nearly every postwar poem by Sachs can be connected thematically to mathematics. But on closer inspection, we can see that specifically geometry was also structurally present from the advent of her postwar poetry, in her preferred form of composition: the cycle. I argue in my book *The Space of Words* that Sachs is a fundamentally diasporic rather than exilic writer, because her work prioritizes, thematically and structurally, the power of wandering in the Diaspora over identification with a parcel of land. One wonders, especially because she was so preoccupied with

³⁸ Sachs, *Gedichte 1951–1970*, 2010, p. 148.

geometry, whether Sachs saw a similarity in relativity and life in the Diaspora. Constantly engaged in the act of wandering, never being 'at home,' means recognizing the tenuousness of orientation. Only a person who identifies with a landobject can conceive of an ultimate and locatable point of origin; the wanderer knows that a point of origin moves and is always in motion. This prevents a sense of complacency or reliance on epistemologies that are first imagined and then advocated in the service of ideology. Sachs' conception of the poetry cycle aims to make this clear.

The poetry cycle has the conceptual shape of a circle and leads the reader through the space of the texts it contains. When one comes to the end of the cycle, one can return to its beginning, a direction encouraged by the common Sachs trait of poems that never fully resolve. Her poems often simply stop or break off with a dash, and as I demonstrated in *The Space of Words*, if a reader returns to what appears to be the beginning of the cycle, she or he will find that the 'end' feeds seamlessly back into the 'beginning,' and intriguingly, the poems can appear quite different the second time through, as the reader becomes more familiar with the lexicon of the cycle. The milestones, references, and images shift in meaning each time, and the reader realizes that the landscape of the space of words is different than it initially appeared– and is always changing with each reading. What at first appeared to be the 'beginning' then looks like the 'middle,' the 'end,' and finally, the reader realizes that each poem is simply one point on a circular line. However, since no reading is ever exactly the same as the one before it, what this structure accomplishes is actually a spiral form. Only from a certain perspective is the cycle a circle; shift perspective, and the cycle reveals itself to be spiral-shaped. Perspective is the necessary starting point of subjectivity. It is crucial for the engaged reader of poetry, and, as Sachs' work actively shows, a linchpin of mathematical thinking. A combination of mathematics and lyric poetry may well lead the *I* to recognize more unconventional but precise concepts and to develop a language for them.

Sachs' geometric poetics attempts to weave together the potential of lyric poetry and geometry in order to find a way beyond the clearly inadequate confines of conventional poetic language and conventional mathematics, to overcome the illusion of a harmonically ordered world. What I have attempted to do here is to first make the case for a poetics that is fundamentally geometric, and then to define the contours of a geometric poetics in Sachs' work. The task to come is to examine the spiral structure of her cycles, as well as the many thematic geometric figures she invokes, and their properties and consequences. In the intersection of lyric poetry and mathematics, we may find more precise descriptions to orient the self in postwar reality, in order to find descriptions of space-time patterns for which we currently possess no concept and no words.

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