

Joseph Eckhart

B.A.S.I.C.///_space*

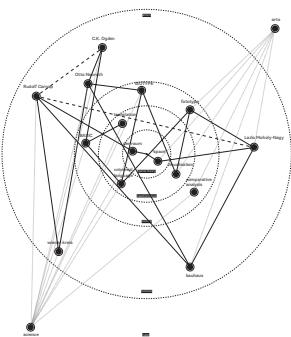
A Dialogue on Spatial Theory via Charles Kay
Ogden, László Moholy-Nagy and Rudolf Carnap

Introduction

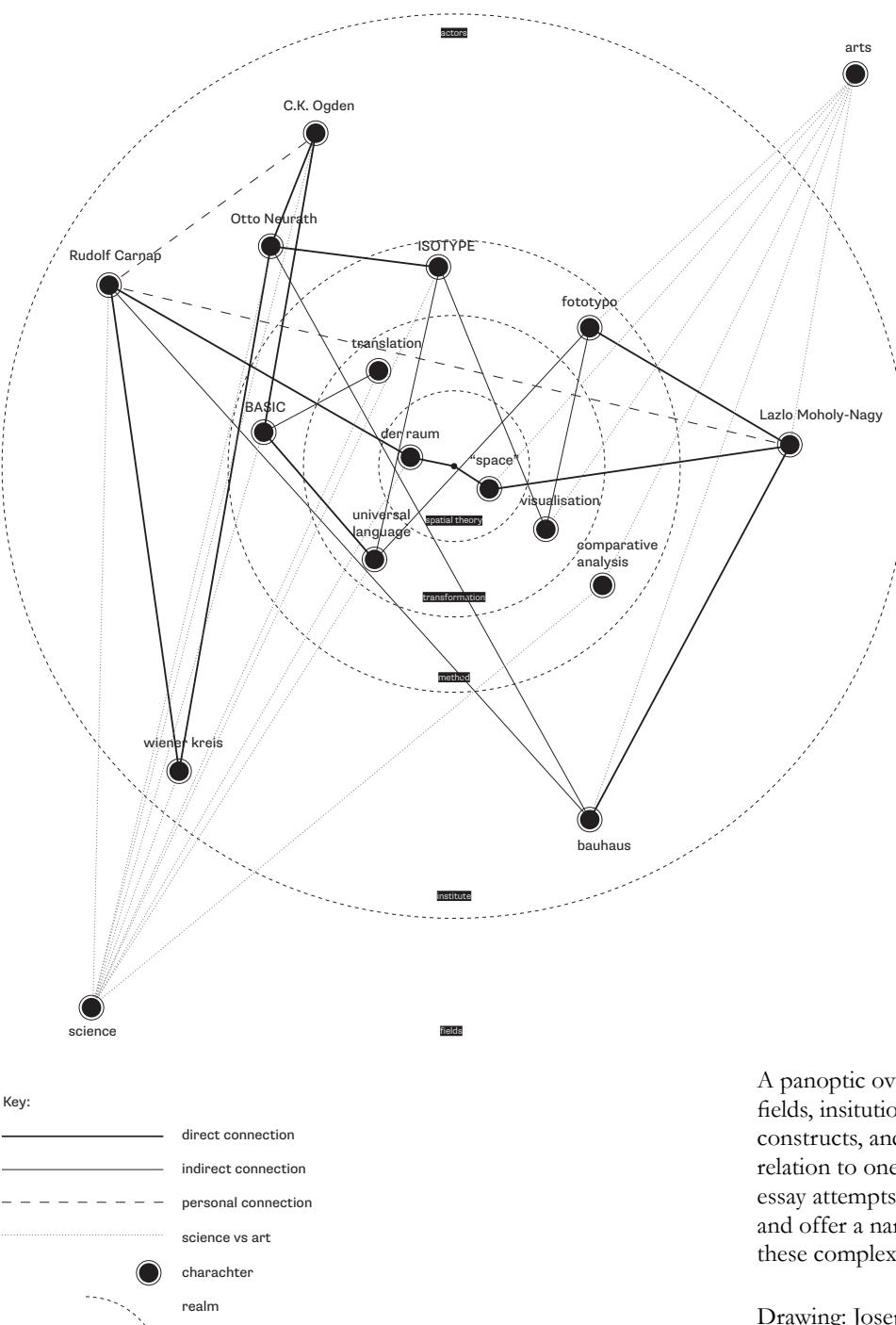
The solution to the problem of a Universal language, lies in shrinking the entire language down to no more than can be made easily legible to the naked eye, in column form, on the back of a sheet of paper. (Charles Kay Ogden 1929)

Meaning, the topic under which one would order the subject we explore here eludes a simple definition. To all those engaged in fashioning ‘scientific’ or ‘pseudo-scientific’ theories at the turn of the century, the problematic status of ‘meaning’ thus quickly became evident. We will focus our attention on the connotation of ‘space.’

The meaning of the term space is a complex one. There are many understandings when discussing spatial theory, from scientific-based theory within physics and mathematics to the more abstract discourse within the arts. Architecture stands at a crossroads within this discussion on spatial theory. On the one hand, contemporary architectural discourse openly welcomes, and one could argue firmly rooted in abstract concepts on spatial theory [aesthetic space, embodied space, and more recently digital space]. While on the other hand, historically and to this day, architects have used geometrical meaning and mathematical laws on spatial theory to create and shape space. However, within the architectural discourse on spatial theory, we often



A panoptic overview
of the text - full page
image on next page.



A panoptic overview of the fields, institutions, methods, constructs, and theories in relation to one another. This essay attempts to untangle and offer a narrative for these complex relationships.

Drawing: Joseph Eckhart

nod to widely accepted scientific claims or concepts without genuinely understanding the author's terminology or ideas. This practice creates a collage of metaphysical abstractions, which are argued based on shallow assumptions gathered by a superficial understanding of complex language. This misunderstanding is apparent when analyzing the chapter "Space" within László Moholy-Nagy's *The New Vision*, in which he references Rudolf Carnap's doctoral dissertation, *Der Raum*. These views will be tactically juxtaposed against one another through the lens of B.A.S.I.C. English and the International Language Movement to demonstrate how essential knowledge can be misinterpreted and further create new meaning. Displayed is an interwoven network that binds these theories and how their ideas and practical efforts were all inevitably shaped by the broader intellectual, social, and political concerns of the time.

Background

The influence of language upon thought has attracted the attention of the wise and foolish alike...sometimes, in fact, the wise have in this field proved themselves the most foolish. (Charles Kay Ogden 1929)

We begin with Charles Kay Ogden, 1889-1957, (commonly known as C. K. Ogden) was an English linguist and philosopher. His work, specifically his semiotics, is closely tied to the Vienna Circle's philosophy and the age of modernism altogether. The International language movement delineates the period forming an arc that clarifies and acts as a bridge between the arts and science.

Known as the founder of B.A.S.I.C. English (British American Scientific International Commercial English), Ogden's close

ties to the Logical Positivism movement are not often discussed. He shared a similarly critical view on metaphysics, also working to unify various specialties. During the pre-war period, a flow of ideas and works for making a medium for international discussions was underway. At its peak, the international language movement received a large amount of effort from scientists and scholars who worked not only on overcoming the curse of Babel but a statement of exact language for the needs of science and reasoning-based thought. For many, the desire was to invent or edit a language in the image of contemporary philosophy and science.

Further, science was undergoing many breakthroughs in this period as well. Natural science annexed more and more of the world and other schools of thought, bringing them to its descriptive and explanatory sovereignty. Physics, for example, was a hotbed of new spatial theories, receiving much focus and

[REDACTED]

The answers [REDACTED] in the last [REDACTED] to the question [REDACTED]
 the [REDACTED], the [REDACTED] of the [REDACTED]
 [REDACTED] and the [REDACTED] of [REDACTED] of the theory of space
 as [REDACTED] well [REDACTED], in [REDACTED] to [REDACTED].
 This question [REDACTED] special attention [REDACTED], as
 well as [REDACTED] and [REDACTED], on the one hand,
 [REDACTED] to the general question of [REDACTED], and on
 the other hand, the [REDACTED] of space by the [REDACTED]
 sciences on a [REDACTED] for [REDACTED].
 Because [REDACTED] to be [REDACTED] even in the
 [REDACTED] of the [REDACTED] of the [REDACTED]

in-depth analysis from Vienna Circle philosopher Rudolf Carnap. These advances were often reflected within social circles, even inspiring thinkers in traditional human-focused fields. The frequent inclusion of ‘science’ and ‘scientific’ methods in the treatments of meaning, language, and even the arts attest to the importance attributed to the natural sciences as the source of rigors and valuable knowledge.

Similarly, in modernist art and literature, old paradigms were overturned. Here we think of multiple schools that rejected traditional technique and representation measures, most notably the Bauhaus. Founded upon the idea of a “Gesamtkunstwerk,” the school was known for its attempt to bring all arts and crafts together. In specific, professor and artist László Moholy-Nagy was a pioneer with his overreaching work of art. As an advocate for high modernism, he wrote books and articles, most notably *The New Vision, from Material to Architecture* (1932), coining the theory Neues Sehen (New Vision), for creating a new way of seeing the outside world that the human eye could not grasp alone. His work often touched on contemporary scientific works and ideas of the times. For example, in his chapter “Space” from *The New Vision*, he leans on Rudolf Carnap’s spatial theory even if this theory and its meaning were abstracted.

The International Language Movement - B.A.S.I.C.

What the World needs most is about 1,000 more dead languages – and one more alive. (Charles Kay Ogden, 1925)

Charles Kay Ogden created basic English in 1927 as an international auxiliary language. Essentially it is a simplified version of the English language. The international language movement

| Rudolf Carnap / Space. A [REDACTED] to the Theory of Science by Ran Cohen | |
|--|--|
| I. Space (R) | The three [REDACTED] of space 2 (5) Relation [p. 7] - |
| | Theory of relations. Number, number, [10] - order, [13] - |
| | of space [15], Space, Colors, [16] |
| | Points and straight lines; Circles and pencils of circles [17]. |
| II. Space (R) | Space (R) 15 (22) The limited field, The [22] - Expansion of the complete structure, The [26]. Measure of the [30]. |
| III. Physical Space (R*) | Physical Space (R*) 22 (32) The physical straight line. Straight line |
| | of Fact [38] - Examples, of R*, after the [41] Example: The earth as a plane [46]. - and of space, and of fact. The possible [47] for or ? For but rather for the complete [54]. Example: The theory of [54]. |
| IV. The [REDACTED] between [REDACTED] and Physical Space. | [REDACTED] and [REDACTED] - theory of [REDACTED] - The purpose of the [REDACTED] of space- |
| V. The Relations between [REDACTED] and Experience | 44 (63) a) The [REDACTED] of the [REDACTED] of space 44 (63) The [REDACTED] of the three [REDACTED] of space. Kant: [REDACTED] b) Space as the condition of experience 46 (65) experience? Only the and [REDACTED] of [REDACTED] space, [REDACTED] of space, [REDACTED] from [REDACTED] space, [REDACTED] and [REDACTED] the conditions of [REDACTED] of the [REDACTED] of experience. |
| I: | [REDACTED] - List 49 (68) |
| II: | [REDACTED] - 59 (78) |

© 2002 Ran Cohen. All [REDACTED]

Sample of the process of censoring non-B.A.S.I.C. words out of Rudolf Carnap's *Der Raum*

The 850 Words of B.A.S.I.C.:
a able about account acid across act addition adjustment advertisement after again against agreement air all almost among amount amusement and angle angry animal answer ant any apparatus apple approval arch argument arm army art as at attack attempt attention attraction authority automatic awake baby back bad bag balance ball band base basin basket bath be beautiful because bed bee before behaviour belief bell bent

was at its peak when the first publications on Basic English began to appear. In Ogden's eyes, and the eyes of many others of the time, only a common medium for communication would secure scientific discourse, progress, and efficiency. However, the conversation goes further back. In 1879 the language project Volapük appeared, which was closely followed by Esperanto in 1887. The latter of which is arguably the most successful – to this day there exists a minor community of Esperanto speakers. Members of the Vienna Circle also saw Esperanto as an option to the international language question but were hesitant to adopt an artificially ‘constructed’ international auxiliary language. On the other hand, Ogden sought not to create a new language instead banish irregularity and illogicality from the English language through “scientific” methods.

Ogden's aspiration was a “panoptic” language or rather a language “seen at a glance.” At its core was Basic's vocabulary, a list of 850 words. Whereas most other languages within the international language movement focused on grammar and vocabulary reform equally, Ogden saw the vocabulary alone as the key to the problem. To filter out words, Ogden scientifically selected each one using his method of “panoptic conjugation;”

To conjugate a verb is to put it through its tricks. Conjugates, in another connexion, are words related to the same root. If we apply the terms to words in general so that any word can have its conjugation and conjugates, it will be convenient to exhibit these so that they can be appreciated at a glance - panoptically.
(Ogden & Richards 1923, 113)

According to Ogden, the word under consideration should be placed in the center of a circle, with the conjugates laid out, so relationships are visible. Surrounding the word in the center are twenty “radial definition routes.” From the root word ‚man,’ we get the words ‘Southerner’ (a man from a specific place), ‘octo-

berry between bird birth bit
bite bitter black blade blood
blow blue board boat body
boiling bone book boot
bottle box boy brain brake
branch brass bread breath
brick bridge bright broken
brother brown brush bucket
building bulb burn burst
business but butter button
by cake camera canvas card
care carriage cart cat cause
certain chain chalk chance
change cheap cheese chemi-
cal chest chief chin church
circle clean clear clock cloth
cloud coal coat cold collar
colour comb come comfort
committee common compa-
ny comparison competition
complete complex condition
connection conscious con-
trol cook copper copy cord
cork cotton cough country
cover cow crack credit crime
cruel crush cry cup current
curtain curve cushion da-
mage danger dark daughter
day dead dear death debt
decision deep degree delicate
dependent design desire de-
struction detail development
different digestion direction
dirty discovery discussion di-
sease disgust distance distri-
bution division do dog door
doubt down drain drawer
dress drink driving drop dry
dust ear early earth east edge
education effect egg elastic
electric end engine enough
equal error even event ever
every example exchange exis-
tence expansion experience

genarian' (of a certain age), 'dwarf' (of a particular size; Ogden 1930, 13-14). The peripheral words are subsequently eliminated from the language's vocabulary and thereby replaced with paraphrases. Thus 'Southerner' becomes a 'man from the South.'

Ogden chose to focus much attention on his language's substance, the words and their meanings, shifting the view away from considering grammar's formal aspects. Here, the grammar depends on the vocabulary and thus becomes the most straightforward possible system for putting words together.

[T]he set of confusions known as metaphysics has arisen through lack of this true grammatical approach, the critical scrutiny of symbolic procedure. In the same manner our analyses of Beauty and Meaning are typical instances of what grammar might long ago have achieved had grammarians only possessed a better insight into the necessities of intelligent intercourse, and a livelier sense of the practical importance of their science.
(Charles K. Ogden, 1923)

This view closely reflected the world view of the Vienna Circle, specifically Otto Neurath. In Neurath's words, the Circle's goal was to make a better world and a better life through what science offers. Otto Neurath made use of the limited vocabulary and simplified dictionary of paraphrases from Basic;

I had more than once [in recent lectures at Oxford, Nottingham, London, and Exeter] an opportunity to discuss Basic English problems. Let me repeat how much I appreciate the General Basic Dictionary. It helps me really in preparing my Scientific Universal Jargon and to understand better some problems of Language Making. Where could I find a report, how Basic has been made? The history, so to speak, of this language? (Otto Neurath 1931, cit. McElvenny 2013, 180)

Here we see how the word had spread to the Vienna Circle on the works of Ogden with Basic English via Otto Neurath. Fellow member of the Circle, Rudolf Carnap, like Ogden, targeted 'metaphysical' philosophers to expose their nonsensi-

expert eye face fact fall false
family far farm fat father fear
feather feeble feeling female
fertile fiction field fight
finger fire first fish fixed flag
flame flat flight floor flower
fly fold food foolish foot
for force fork form forward
fowl frame free frequent
friend from front fruit full
future garden general get
girl give glass glove go goat
gold good government grain
grass great green grey grip
group growth guide gun hair
hammer hand hanging happy
harbour hard harmony hat
hate have he head healthy
hear hearing heart heat help
high history hole hollow
hook hope horn horse
hospital hour house how
humour I ice idea if ill im-
portant impulse in increase
industry ink insect instru-
ment insurance interest in-
vention iron island jelly jewel
join journey judge jump keep
kettle key kick kind kiss knee
knife knot knowledge land
language last late laugh law
lead leaf learning leather left
leg let letter level library lift
light like limit line linen lip li-
quid list little living lock long
look loose loss loud love low
machine make male man
manager map mark market
married mass match material
may meal measure meat me-
dical meeting memory metal
middle military milk mind
mine minute mist mixed
money monkey month moon

cal doctrines. Rudolf Carnap reached out to Ogden in 1933 to express his interest in the movement and better inform himself on Basic English;

When Neurath was here recently he spoke enthusiastically about your “Basic English.” I’d be very grateful if you could send me something in the way of orientation. For many years I’ve had a lively interest in the problem of an international auxiliary language. In terms of theory, I’m especially interested in the logical side of this problem, the question of logical syntax. But I’ve also been involved with the practical aspects (I can speak Esperanto, but am not dogmatically attached to this system). I consider an auxiliary language especially worthwhile and necessary for international relations in science.

(Rudolf Carnap 1933, cit. McElvenny 2013, 178)

As much as Carnap appreciated the idea of such a universal language, he never implemented one, and there exists only a limited number of texts, especially scientific ones, written by him in BASIC. However, Carnap goes further to endorse Ogden’s theory of ‘word economy,’ who proposes he holds an upcoming lecture in BASIC to prove its validity. The later published version of these lectures appeared under Ogden’s editorship, but in ‘normal English,’ not Basic English.

The Triangle of Reference

Ogden was also very focused on symbols and how they can lead to misunderstanding, or as he puts it, ‘word magic.’ This idea is demonstrated with the ‘Triangle of Reference.’ Here, his theory is more about misunderstanding and its remedies. Charles Kay Ogden and Ivor Armstrong Richards studied the misunderstanding that happens due to the difference in understanding worked toward a treatment, or method of rooting out

morning mother motion
 mountain mouth move much
 muscle music nail name
 narrow nation natural near
 necessary neck need needle
 nerve net new news night
 no noise normal north nose
 not note now number nut
 observation of off offer
 office oil old on only open
 operation opinion opposite
 or orange order organization
 ornament other out oven
 over owner page pain paint
 paper parallel parcel part
 past paste payment peace
 pen pencil person physical
 picture pig pin pipe place
 plane plant plate play please
 pleasure plough pocket point
 poison polish political poor
 porter position possible
 pot potato powder power
 present price print prison
 private probable process
 produce profit property pro-
 se protest public pull pump
 punishment purpose push
 put quality question quick
 quiet quite rail rain range
 rat rate ray reaction reading
 ready reason receipt record
 red regret regular relation re-
 ligion representative request
 respect responsible rest
 reward rhythm rice right ring
 river road rod roll roof room
 root rough round rub rule
 run sad safe sail salt same
 sand say scale school science
 scissors screw sea seat
 second secret secretary see
 seed seem selection self send
 sense separate serious ser-

misleading statements.

Symbols direct and organize, record, and communicate. In stating what they direct and organize, record, and communicate we have to distinguish as always between Thoughts and Things. It is thought (or, as we shall usually say, reference) which is directed and organized, and it is also Thought which is recorded and communicated. (Ogden & Richards 1923, 9.)

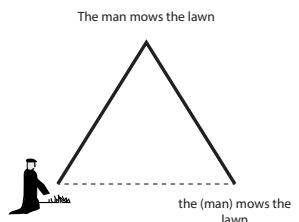
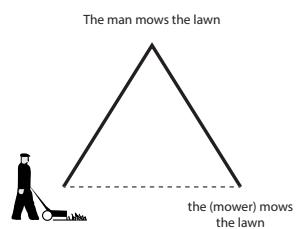
Ogden goes further, stating that when we say “the man mows the law,” we know that it is the lawn-mower that actually is doing the cutting. Here we can see how the relationship between symbols and thoughts, as he puts it, is ‘direct.’ He goes as far as to say that “[...] symbols record events and communicate facts” (Ogden & Richards 1923, 9.). To illustrate how misunderstanding comes from leaving out essential information, Ogden and Richards designed the ‘Triangle of Reference.’ The three factors involved in any statement are placed in the corners of a triangle. The two bottom sides of this triangle represent the relationship that binds them. With the exception of this base, the connection between thought and symbol is a ‘casual’ one, meaning the symbolism we ‘employ’ is part of the reference we are making from social and psychological factors. The top point of the triangle is reserved for the thought, statement, or idea. The bottom left; the symbol, and the bottom right; the referent.

Using this model, we can see the author’s desire to create a direct and straightforward relation between words, phrases, and situations.

Rudolf Carnap & *Der Raum*

Der Raum. Ein Beitrag zur Wissenschaftslehre (1922) was the doctoral thesis from Rudolf Carnap. In this dissertation,

vant sex shade shake shame
sharp sheep shelf ship shirt
shock shoe short shut side
sign silk silver simple sister
size skin skirt sky sleep slip
slope slow small smash smell
smile smoke smooth snake
sneeze snow so soap society
sock soft solid some son
song sort sound soup south
space spade special sponge
spoon spring square stage
stamp star start statement
station steam steel stem step
stick sticky stiff still stitch
stocking stomach stone stop
store story straight strange
street stretch strong structure
substance such sudden
sugar suggestion summer
sun support surprise sweet
swim system table tail take
talk tall taste tax teaching
tendency test than that the
then theory there thick thin
thing this thought thread
throat through through



Carnap sought to provide a logical basis for a theory of space. Considering His interests in mathematics, natural sciences, and philosophy, his dissertation can be viewed as his effort to tie these disciplines together. With that being said, one can argue that the main intent of Carnap's dissertation was to display the inconsistencies between theories concerning space. In doing so, he proposed that misunderstandings surrounding "space" only existed because philosophers, as well as mathematicians and scientists, are talking about different things while using the same word. As a result, Carnap denotes three additional individual terms; the first being "formal space," space reserved for mathematics: it is an abstract system of relations, "intuitive space;" space that is made from the content of intuition independent of single experiences, and finally "physical space;" which consists of actual spatial facts given through experience. We will focus our attention on the latter two as these sections hold most similarities to the spatial theory put forth by Moholy-Nagy.

Carnap states, "Certain structures, in three different fields, are designated "space" – not due to contingency of common language, but rather because of a closer relationship that will emerge later." (Carnap 1923, 3). It was not the misuse of language here, rather the fact that all fields were discussing the same idea and our vocabulary restricted the conversation. These three forms of space put forth by Carnap displays how they are all closely intertwined. This "closer relationship" they share, he argues, is because they are built upon one another. He states, "It [Physical Space] presupposes for its cognition those facts of intuitive space, and the latter, in turn, finds the pure form of its structure exemplified in formal space and hence has that space as a conceptual presupposition" (Carnap 1922, 3).

thumb thunder ticket tight
till time tin tired to toe
together tomorrow tongue
tooth top touch town trade
train transport tray tree trick
trouble trousers true turn
twist umbrella under unit up
use value verse very vessel
view violent voice waiting
walk wall war warm wash
waste watch water wave wax
way weather week weight
well west wet wheel when
where while whip whistle
white who why wide will
wind window wine wing
winter wire wise with
woman wood wool word
world work worm wound
writing wrong year yellow
yes yesterday you young

Sample of censoring non-B.A.S.I.C. words out of Rudolf Carnaps *Der Raum*:

Rudolf Carnap / Space. A [REDACTED]
[REDACTED] to the Theory of Science
[REDACTED] by Ran Cohen

[REDACTED]

[REDACTED] The three [REDACTED]
of space 2 {5}
I. [REDACTED] Space (R) 4 {7}
[REDACTED]
Relation {p. 7}. – [REDACTED]
Theory of relations. Number. Series.
[REDACTED] number. [REDACTED]
{10}. – [REDACTED] order [REDACTED]
[REDACTED] Space. [REDACTED] {13}. –
[REDACTED] of space-[REDACTED] {15}.
– [REDACTED] Colors: [REDACTED]

Intuitive Space

Intuitive space is arguably the most complicated form presented by Carnap, and rightfully so. This concept deals with the imagination of space or our projection and understanding of spatial concepts mentally. Therefore it is understandable that this form of space would be most speculative, raising questions about essential insight and intuition. However, we see how Carnap focuses on language and misunderstandings, reserving much time to clarify these two terms. “Intuitive space is an order structure, whose formal type we can certainly delimit conceptually, but – as with everything intuitive – not particular nature [Sosein, suchness].” Carnap goes further to concede that also within this realm of space, we can “only point to experiential contents [Erlebnisinhalt]...” In specific to intuitively spatial shapes and relations: points, linear segments, surface-elements, volume elements. However, the question arises as to how these ideas are discussed and demonstrated. Carnap follows with clearing up confusion on terminology, which may lead to misunderstanding, a trend throughout the entire paper.

[...] its ‘essence,’ it is important to distinguish this mode of apprehension [Erfassungsweise] from intuition in the narrower sense, which is focused on the fact itself, by the name ‘essential insight,’ to avoid a possible ‘confusion’ (Carnap 1922, 15).

However, the confusion stands upon which principles spatial constructs can be established regarding intuition. According to Carnap, “only the principles need to be inferred from intuition” (Carnap 1922, 15), and that several steps further, we can begin to infer the propositions derived from them. However, these propositions must be kept to as few as possible. He also warns that the use of intuitive statements concerning complex shapes “should be completely avoided, since when the complexity of

theory of [REDACTED]
 The purpose of the [REDACTED]
 of space- [REDACTED]
 V. The Relations between [REDACTED]
 and Experience
 44 {63}
 a) The [REDACTED] of the [REDACTED] of
 space 44 {63}
 The [REDACTED]
 of the three [REDACTED]
 of space. Kant: [REDACTED]
 b) Space as the condition of
 experience 46 {65}
 [REDACTED]
 experience- [REDACTED]
 ? Only
 the [REDACTED] and
 of [REDACTED] space, [REDACTED] of
 space. [REDACTED] from
 space, [REDACTED] three- [REDACTED]
 space. [REDACTED]
 and [REDACTED] the
 conditions of [REDACTED] of the
 [REDACTED] of experience.
 [REDACTED]: [REDACTED] - List
 49 {68}
 [REDACTED]: [REDACTED] - [REDACTED]
 [REDACTED] 59 {78}

The answers [REDACTED] in the last
 [REDACTED] to the question [REDACTED]
 the [REDACTED]
 the [REDACTED] of the [REDACTED]
 [REDACTED] and the [REDACTED]
 of [REDACTED] of the theory of space
 [REDACTED] as [REDACTED] well [REDACTED], in [REDACTED]
 [REDACTED] to [REDACTED]
 This question [REDACTED] special
 attention [REDACTED] as well
 as [REDACTED] and [REDACTED]
 [REDACTED] on the one hand, [REDACTED]
 [REDACTED] to the general
 question of [REDACTED] and on
 the other hand, the [REDACTED]

the shapes increases, these statements quickly become more uncertain and their content more indefinite" (Carnap 1922, 15). Here it is important that we make note of the use of the term 'indefinite' and his cautionary tone. The intuitive form of space essentially sets up a structure of relations between spatial shapes we grasp on the occasion of a sensual perception or even in mere imagination. However, it is not a matter of spatial facts present in our experiential reality; rather, merely the shape's 'essence.'

Physical Space

Distinguishing from and building upon the spatial properties established in intuitive space, Carnap proposes physical space. The spatial facts mentioned previously, such as the relation of two bodies' boundaries, form physical space's composition. Here he states that through 'experience,' we discover 'relations of another kind,' these being spatial. This term is found in 'ordinary language.' He lists the relational terms, "[...] before, inside, between, near, distant, etc." (Carnap 1922, 22.). These terms, he claims, are widely used and excepted in 'ordinary language,' that being in everyday speech to describe 'physico-spatial' elations. However, the task of his 'physical space' is to determine which of those relations apply to experience. Carnap then further lists the terms involved in describing spatial relations that do not exist in nature; the straight line, the circle, and the right angle. Here, he provides an example of how language uses terms that can only exist in the intuitive and formal space to describe spatial concepts that we experience in reality. The absence of a straight line in nature and with limited technical resources of the time, for example, can lead to confusion when

Because [REDACTED]
[REDACTED] to be [REDACTED] even [REDACTED]
[REDACTED] of the [REDACTED]
[REDACTED] of the [REDACTED]
[REDACTED] sciences, one may
[REDACTED] the [REDACTED], that in
this [REDACTED] not that "the [REDACTED]
[REDACTED] in the middle", [REDACTED]
[REDACTED] the [REDACTED]
of all the [REDACTED] views. In fact, a [REDACTED]
[REDACTED] of the question
[REDACTED] that the [REDACTED] of
[REDACTED] from
the fact that the different [REDACTED]
[REDACTED] with very different [REDACTED]
In order to [REDACTED] the [REDACTED] at
hand, the different [REDACTED] of
space and the [REDACTED] of space that
[REDACTED] with [REDACTED] of [REDACTED] be
[REDACTED] and this not
to [REDACTED] but [REDACTED] to
[REDACTED]
Certain structures, in three
different fields, [REDACTED]
"space" – not [REDACTED] to [REDACTED]
of common language, but [REDACTED]
because of a [REDACTED]
that will [REDACTED]
[REDACTED] between [REDACTED]
[REDACTED] and physical
space. [REDACTED] a general
order structure [REDACTED]
to be a structure of relations, not
between [REDACTED] of a
[REDACTED] or [REDACTED]
but [REDACTED] between [REDACTED]
[REDACTED]
[REDACTED] of [REDACTED]
[REDACTED] only [REDACTED] that from a
connection of a [REDACTED] kind
[REDACTED] a
connection of [REDACTED] kind in the
same [REDACTED] so [REDACTED] space
[REDACTED] a general order structure of a
special kind. The [REDACTED] does not
[REDACTED] that [REDACTED]
[REDACTED] as [REDACTED]
[REDACTED] circles or the like – but

attempting to explain its existence within our intuition. The remainder of the text discusses the “straight line stipulation” and “metrical stipulation.” Carnap states,

Roughly put: an object is decided upon, which should be regarded as rigid; precisely put: one chooses a certain object, and on it, two given points, and then stipulates what measurement number should be assigned to the distance between these points, under the given circumstances (temperature, position, direction, pressure, electric charge, etc.) (Carnap 1922, 23).

The clarification of “roughly put” and “precisely put” shows his preference towards a clear, logical language. It is evident when looking at the lengths of description from the two statements that his ‘precisely put’ is just that, a more precise, clear, and very exact form, further demonstrating how imperative the accurate use of language is.

Throughout his dissertation, Rudolf Carnap makes it evident that the discussion on space, or rather discussion of one’s ideas in general, is highly dependent on the language one employs. His efforts to apply this concept to spatial theory gave us more precise terms to implement. One would assume this contradicts the method chosen by Ogden, that of reduction to prevent misunderstanding and ‘word magic’ through complex language and grammar. However, even in Basic English, Ogden concedes that the necessity of clarity, especially within natural sciences, supersedes the reduction of vocabulary. He would later expand the Basic vocabulary, albeit slightly expand it (from 850 words to 1200), to better accommodate scientific jargon and philosophical writings.

(numbers, colors, degrees of
 [REDACTED] circles, [REDACTED]
 [REDACTED] that the
 relations that [REDACTED] between [REDACTED]
 [REDACTED] certain [REDACTED] conditions.
 [REDACTED] space, on the other
 hand, [REDACTED] to be the structure
 of relations between [REDACTED]
 [REDACTED] in the [REDACTED] sense,
 [REDACTED] between [REDACTED] of line,
 plane and space, [REDACTED]
 [REDACTED] on [REDACTED]
 of a [REDACTED] or even
 [REDACTED]
 not, [REDACTED] a [REDACTED] of the
 [REDACTED] facts present in [REDACTED]
 [REDACTED] but only of the [REDACTED]
 of [REDACTED]
 [REDACTED] be [REDACTED] in any
 representative of [REDACTED]
 [REDACTED] facts, in turn, [REDACTED] the
 [REDACTED] of affairs [REDACTED]
 [REDACTED] that this body's
 [REDACTED] in this [REDACTED]
 [REDACTED] relation to [REDACTED] body's
 [REDACTED] form the structure of
 physical space. [REDACTED]
 for [REDACTED] of
 [REDACTED] space, and the [REDACTED] in
 turn, [REDACTED] the [REDACTED]
 structure [REDACTED] in [REDACTED]
 space, and [REDACTED] that space
 as a [REDACTED]
 [REDACTED]
 [REDACTED] the [REDACTED] of [REDACTED]
 three different [REDACTED] of space
 and [REDACTED]
 [REDACTED] to [REDACTED] that on
 [REDACTED] the [REDACTED] of space [REDACTED]
 [REDACTED] and [REDACTED]
 and to [REDACTED]
 [REDACTED] experience.
 {7}

László Moholy-Nagy and *The New Vision*

Where Carnap sought to expand his vocabulary solely for the sake of clarity and precision, László Moholy-Nagy worked to expand it indefinitely – in direct contrast and opposition to the foresight offered from *Der Raum*. In his book, *The New Vision* (1928), he sought to frame the Bauhaus school of thought. The reader is guided by discussions on the school's structure and goals, through material studies, ideas on volume and sculpting, to theories on space and architecture. Regarding this work, Walter Gropius (founder and director of Bauhaus from 1919-1928) writes, “Moholy felt the urge to find objective definitions for the new space conception which had sprung up from his work...” (Gropius 1947, cit in Moholy-Nagy 1947, 5). He continues, “It [The New Vision] has become a standard grammar of modern design.” Already we can see here the use of metaphors signifying the importance of language within conceptual theories. We will focus our attention on the final chapter – “Space.”

Moholy-Nagy begins his theory on space with a definition:

Every cultural period has its own conception of space, but it takes time for people consciously to realize it. This is the case with our own spatial conception. Even in defining it, considerable hesitation prevails. This uncertainty is evident in the words we employ; and the words increase the confusion. (Moholy-Nagy 1947, 56)

Here we already see the first striking similarities to that of Carnap's text. Beginning the conversation with a statement that indicates the confusion and misunderstanding surrounding the term space and the multitude of words we use, which only “increase the confusion.” However, the first sentence gives us a hint and sets up what is to follow. The use of the words

[REDACTED] of space. [REDACTED] of space, but [REDACTED] takes time for [REDACTED] [REDACTED] to [REDACTED] This [REDACTED] the [REDACTED] with [REDACTED] Even in [REDACTED] [REDACTED] this [REDACTED] in the words [REDACTED] and the words increase the [REDACTED]

“consciously” and “realize form a foundation for an empirically deduced and justified understanding of space. Or rather, an understanding of the space which we can perceive with intuition. He continues with a list of “different kinds of space” which were discussed at the time.

The different kinds of space.* We speak today of:

| | | |
|---------------|-------------------|--------------------|
| mathematical | bodily | abstract |
| physical | surface | actual |
| geometric | lineal | imaginary |
| Euclidean | one-dimensional | finite |
| non-euclidean | two-dimensional | infinite |
| architectural | three-dimensional | limitless |
| dance | n-dimensional | universal |
| pictorial | isotropic | etheric |
| scenic | topographic | inner |
| spherical | projective | outer |
| crystalline | metric | movement |
| cubic | homogeneous | hollow |
| hyperbolic | absolute | vacuum |
| parabolic | relative | formal, etc., etc. |
| elliptical | fictive | |

*See: Rudolf Carnap, *Der Raum* (Moholy-Nagy, 1947)

Following this list of 44 “unique” forms of space, Moholy-Nagy alludes for the first time to Rudolf Carnap. Citing him in and stating, “see also... ‘*Der Raum*,’ *Kanstudien*, Berlin, 1922 and *Der Logische Aufbau der Welt*, Weltkreisverlag, Berlin-Schlachtensee, 1928” (Moholy-Nagy 1947, 56). Carnap set out to clarify the confusion surrounding spatial theory by decisively labeling them into three categories. Contrastingly, Moholy-Nagy offered an incomplete list of words distantly re-

Samples of censoring non-B.A.S.I.C. words out of Maholy-Nagy's *The New Vision*:

[REDACTED] of space. [REDACTED]
[REDACTED] of
space, but [REDACTED] takes time for [REDACTED]
[REDACTED] to [REDACTED]. This [REDACTED]
the [REDACTED] with [REDACTED]
[REDACTED] Even in [REDACTED]
[REDACTED]
this [REDACTED] in the
words [REDACTED] and the words
increase the [REDACTED]
know of "space" in general [REDACTED] of
little help in [REDACTED] to [REDACTED]
[REDACTED] as an [REDACTED]

The figure is a horizontal bar chart titled "The different [REDACTED] of space: [REDACTED]". The y-axis labels are "physical" at the top and "one- [REDACTED]" and "two- [REDACTED]" at the bottom. There are 15 horizontal bars of varying lengths. The first bar under "physical" is the longest. The bars under "one- [REDACTED]" decrease in length from top to bottom. The bars under "two- [REDACTED]" are the shortest.

| Category | Sub-Categories | Approximate Bar Lengths (relative) |
|---|----------------|------------------------------------|
| The different [REDACTED] of space: [REDACTED] | physical | 1 (longest) |
| | | 2 |
| | | 3 |
| | | 4 |
| | | 5 |
| | | 6 |
| | | 7 |
| | | 8 |
| | | 9 |
| | | 10 |
| | | 11 |
| | | 12 |
| | | 13 |
| | | 14 |
| | 15 (shortest) | |
| one- [REDACTED] | 1 | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 (shortest) | | |
| two- [REDACTED] | 1 | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 (shortest) | | |

lated to the theme of space and spatial theory but by no means clarified or simplified the discussion. Rather quite the opposite. Here he is using words as a tool to demonstrate the confusion surrounding the conversation. However, how many hold up to logic when analyzed according to the triangle of reference?

Following his list of terminology, Moholy-Nagy states that “space is a reality.” Going further to explain how space is a “sensory experience,” a “human experience,” and “[a] means of expression.” According to Moholy-Nagy, space as a reality must first be comprehended in its essence and indeed perceived by its laws. Only then can we begin to arrange it according to said laws. In this sense, we see here that, like in Carnap’s philosophy, he builds spatial concepts upon one another. The “laws of space” mentioned previously are assumed to be given axioms accepted by the individual which can further one’s intuition, and subsequently be applied to “reality,” or creating space as Moholy would say. This is the task of the architect.

Moholy continues, “space is the relation of bodies” (Moholy-Nagy 1947, 57). This statement directly correlates to the quote from the introduction of Carnap’s dissertation: “Those facts, in turn, e.g., the experiential state of affairs [Erfahrungsbefund] that this body’s boundary stands in this particular spatial relation to another body’s boundary, form the structure of physical space” (Carnap 1922, 3.). We can thus deduce that space as reality is the Physical Space discussed in Rudolf Carnap’s dissertation. From here, Moholy goes to say that spatial creation is, therefore, the creation of relationships of bodies or volumes, which he defines as; ‘thin plates, rods, wiring, and even relations among limits, terminations, and openings.’ The structure to the arguments set up here echoes that of Carnap, presenting the Spatial form, discussing problematic areas, and finally testing the theory put forth.

three-
n-
lin-
hollow
formal,

*See
Berlin,
1922 and
Ber-
lin-Schlachtensee, 1928.

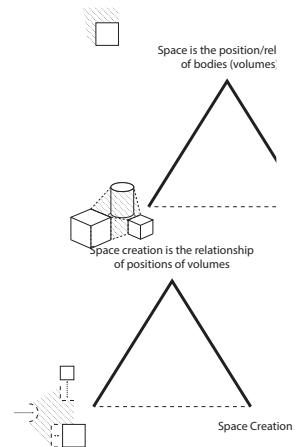
Space [the position relation
of [A] of space
[may at [be [as
a point of [in
— “space [the relation
between the position of [
[is the
[of [of [position
of [On the
[of [understand
or minute, in
thin plates, sticks,

However, the ‘means’ by which Moholy sets out to test his spatial theory, the senses, indicate where the text diverges off of logically based arguments towards speculation and, as Ogden would say, word magic. He begins with vision as the first tool to grasp space, going as far as to say that space can be experienced on the highest level by a subject through dance. “The dance is an elemental means for the realization of space-creative impulses. It can articulate space, order it” (Moholy-Nagy 1947, 57). Here we can apply Ogdens logic to deduce that the sentence “Dance orders space” defines ‘word magic.’ It becomes evident as the text goes on that the abstract concepts and ideas are aimed at seeing space as an “articulated space.” Here we shall declare a new form of space for his theory; let us use exactly this term – ‘articulated space’ to distinguish it from scientific spatial theory and avoid confusion. That which the architect uses to create a sensory experience and appreciation of spatial constructs.

When analyzing the text’s complexity [dependent on word length, word frequency, sentence length, abstract ideas, and frequency of terminology in the English language], the complexity of Moholy-Nagy’s writing was determined to be twice as difficult for a native English speaker as that of Carnap. This raises the question, is this complexity necessary? Or merely an attempt to exaggerate the ideas at hand, behind a mask of meaningless language. According to Ogden, it must be the latter.

[...] it is perhaps hardly realised how widespread is the habit of using the power of words not only for bona fide communications, but also as a method of misdirection; and in the world as it is today the naive interpreter is likely on many occasions to be seriously misled if the existence of this unpleasing trait [...] is overlooked. (Ogden 1923, 19)

rods, [] and even as relations among limits, [] and []. The [] of [] be tested by the



Application of the Triangle of Reference to Maholy-Nagy’s *The New Vision*.

- Man [] space:
1. through the sense of [] in such things as sticks, rods, [] meeting and [] one [] wide [] of mass, light, [] []
 2. through the sense of hearing by [] sound; []
 3. through the sense of [] [] by circles, curves, []
 4. through the [] of movement [] space [] jumps, []

Conclusion

Moholy-Nagy began his theory on space, leaning heavily on scientific theories, especially that of physics. This foundation forms his statements' groundwork, making them appear at first glance as if they are rooted in the same framework. However, he soon delves onto a route that takes this text into the pseudo-scientific realm or, what Carnap might call, the metaphysics. These highly abstract concepts put forth at times do not logically make sense based on Ogden's meaning theory.

Within the architectural theory, the architect tends to drift into the philosophical realm, especially to defend what one could say are subjective design decisions. This may be confusing for those not within the professional field, as they expect a system of empirical reasoning to justify the creation of something as fundamental as shelter. However, the architect needs to be wary of reliance on pseudo-scientific based claims in an effort to better articulate subjective judgments and clarify not only design choices but theoretical concepts as well.

As we see, language can be a useful tool in clarification; however, it is easy to fall into traps of misdirection. Where Rudolf Carnap set out to clarify and give meaning to a single word, 'space,' which led to many misunderstandings, Moholy-Nagy elaborated and ultimately failed in offering a clear explanation to the language and statements he made. Looking at these texts through the lens of linguist Charles Kay Ogden helps to clarify the meaning in referents, offering a different perspective to the conversation on spatial theory.

The connections between these three prominent figures in the early twentieth century form a diverse and intriguing conversation; a multitude of perspectives from various fields working within similar topics which, at times, fuse the ideas of

one another. Applying these individual perspectives to the next offers us an exchange of information that might have been overlooked. An interwoven network of ideas shaped from the philosophy of the time. A panoptic view.

Now the earth has only one language, and the number of its words was small...

And the Lord said, see the people is one, and they have all one language, and they are doing this: and now everything which they have in mind to do will be possible for them.

(Genesis XI, 1-9, In B.A.S.I.C. English, 1944)

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