

LA 1 Nature of Insight

- 1 Grateful - honor - 50th year
- 2 Approach -- experiential (of operations, not of knowing)
ψ fallacy
 - a of blind on color, sight -- no experience
normal: open and close eyes as often as he pleases -
alternation of experience and no experience of seeing
 - b insight, acts of understanding, not turned on and off that easily
not identified that easily: sight hearing, insight concept judge
personal experience and identification of act of insight
not account of history of word, of opinions about thing
finding out for oneself
- 3 Which insights are to be experienced
 - a insights are extremely common: dime a dozen
most of them are habitual - no questioning learning now
- hence not easily noticed identif
most of them are commonsense - Socrates & Athenians
- hence not easily talked about
 - b begin from fresh and clearcut
mathematics puzzles -- for many a block -- take a chance
-- drop inhibitions -- simplest possible
- 4 Euclid, Book I, Prop I; equilateral triangle
does construction hold in every case
how did people for 2000 years know it held in every case
how do modern geometers proceed: intuitive to formalized geom
 - b Euclid, Book I, prop. about 14: theorem
How does one know line, ADE, falls between, Ab & AC?
 - c McShane: perpendiculars from P on rectangular diameters
unumquodque cognoscitur secundum quod est actu
 - d one catches on as soon as diagram is complete
catching on is independent of adequate formalization conception
 - e without appropriate image, symbolical repres, one cannot catch on
conception formalization expresses what one learns when one catches

68 Insight and its Expression

a Definition of circle

insight: if radii equal, no bumps dents -- impossibility
if unequal, must be bumps dents -- necessity

locus of (coplanar) points equidistant from centre

besides insight into circle, also insight into meanings
of other words

b Definition of straight line

merely nominal: not why straight line must be straight
of all right angles equal

of implicit definition: pure postulational element (Hilbert)

5 # Insight and Discovery, Invention

Archimedes and King Hiero's crown

release to tension of inquiry: puzzled (Einstein, bird dipping)

unexpectedly: image comes into focus (preconscious / inattention
H S Sullivan selective
function not of outer circle but inner disposition)

pivots between sensible and conceptual (dot, thread)

passes into habitual contexture of one's mind (habit like an
other sense)

7 Clusters of insights and Systems, Higher Viewpoints

commonsense insights cluster

are commonsense because concerned with doing saying re
each concrete situation as it arises -- troubleshooter

Socrates introduced *logoi epaktikoi* and universal definition
ideal of coherence, of possible deduction
from floating meanings of words to univocal terms

the exception proves (refutes) the rule

refutes if fully articulate, technical, coherent, logical
proves, if intelligence a nucleus adjusting to each new situation

the bifurcation

two languages: everyday, technical

two worlds: Eddington's two tables

two societies: communicate with scientific colleagues, w wife

two modes of learning: either universal or invalid, vs this case

Greek exaggeration

theory necessity wisdom, practice contingency prudence

Modern

empirical sc, de facto intelligibility, continuity of th & prac

recursion of systems, more general, more radical

8 Inverse insight

catching on, getting the point
inverse: the point is that there is no point

incommensurables, irrationals
constant velocity
sin
mystery

9 ~~Abstraction~~

~~prescinding: one does not learn everything at once~~

~~learning one thing has its stages
pure math, applied math, physics, engineering~~

~~accumulation of experience
development of intelligence
maturation of judgement~~

~~grasping the point implies grasping what is not to point
disregard irrelevant accidental insignificant unimportant~~

~~abstraction is a consequence of insight~~

9 Abstraction

a "Grasping the point" implies "grasping what is not to point"

b Methodical aspect

learn one thing at a time - else you will not really learn
learning one thing has its stages
x pure math, applied math, physics, engineering

accumulation of experience
development of intelligence
maturation of judgement

c If point grasped, then attend to essential relevant sign import
disregard accidental irrelevant insight unimport

important from v-p of knowing: science is concrete universe
understanding explaining

not because at a place but because something at the place
not because at a time but
not because this instance but because something about this

d abstracting is not just omitting, impoverishment of data
primarily it is enriching, grasping essential & so disregard accid

10 Heuristic structure

a Insights occur within process

process not just finalistic, for an end
but intentional, consciously tends to end

end manifested by the question
question expresses in words basic attitude

end is not the given but beyond the given, the known unknown
question goes beyond the data of sense consciousness
what? why? (what? = why?)

b Heuristic structure (heurisko, heuristikon)

name the known unknown, $x, f(x, y, z, t), \phi$
enumerate its properties
from the properties conclude to the unknown

when first after 3 pm does the minute hand just cover hour hand/

what is law of falling bodies, $s = f(t)$

c What is a law

Aristotle, ut in pluribus, paucioribus

what will happen, other things being equal: classical
abstract, between implicitly defined terms: non deterministic
imaginative, between imagined particles: deterministic

how often will other things be equal: statistical

genetic method: what evolves, grows, develops

dialectic: intrusion of irrational

11 Things

insight into data as of a kind -- correlations, systems
into data as these -- unity identity whole
determined by correlation, properties

predication: same data understood in two manners
data as of kind determine kind of thing
as individual select thing that is determined

12 Yields a world mediated by meaning, by intentions

prior to world mediated by meaning there is world of immediacy
child before speech

speech primarily refers to other worlds of immediacy
decentering, shift of axis

world mediated by meaning is not sum of worlds of immediacy
it is intelligently constructed and rationally affirmed

Naive realist: world mediated by meaning is abstraction from real

Idealist: w m by m is a different merely ideal world

Critical realist: real world is mediated by meaning, w immediacy
is fragment of it only imperfectly known