

Source	Relationship	Target	Chapter					
the whole	comprises	consciousness	Introduction					
the whole	comprises	mental factors						
the whole	comprises	the cognitive process						
the whole	comprises	materiality						
the whole	comprises	conditionality						
the whole	comprises	society						
the whole	comprises	freedom						
the whole	is	impermanent						
the whole	is	subject to change						
mental phenomena	makes up	the whole						
physical phenomena	makes up	the whole						
mental phenomena	observed directly via	introspection						
introspection	excludes	concepts						
physical phenomena	measured by	science						
physical phenomena	conceptualized by	science						
consciousness	is	object						
mental factors	is	object						
materiality	is	object						
the cognitive process	is	process						
conditionality	is	process						
materiality	is	process						
object	has kind	experience						
object	has kind	physical thing						
everything	has	pros and cons						
the whole	is	everything						
consciousness	is	bare knowing	Consciousness					
bare knowing	concerns	object						
consciousness	has kind	wholesome consciousness						
consciousness	has kind	unwholesome consciousness						
consciousness	has kind	social consciousness						
consciousness	has kind	sensory consciousness						
consciousness	has kind	somatic consciousness						
consciousness	has kind	subliminal consciousness						
wholesome consciousness	leads to	existence of the whole						
unwholesome consciousness	leads to	non-existence of the whole						
wholesome consciousness	is	wholesome						
unwholesome consciousness	is	unwholesome						
social consciousness	is	shared understanding between people						
sensory consciousness	tied to	five senses						
vision	is part of	five senses						
hearing	is part of	five senses						
olfaction	is part of	five senses						
taste	is part of	five senses						
touch	is part of	five senses						

Some of the thinker's predictions take longer than others to complete, depending on complexity. Until a prediction is completed, other sensory information is blocked from entering the brain (this is called being preoccupied). The brain is afforded some parallel computation because different parts of the brain are responsible for different senses. However, the place where the information from all channels coalesces (the PFD responsible for the central wholesome or unwholesome consciousness, which can focus on a single object) is more limited and can only focus on one thing at a time. The reflexes are essentially fully independent background tasks and the Thinker is like a blocking CPU task, with the Doer somewhere inbetween.

somatic consciousness	is	experience of feelings						
subliminal consciousness	concerns	reflexes						
subliminal consciousness	occurs	during sleep						
mental factors	modify	consciousness	Mental Factors					
mental factors	delimit	object						
mental factors	inspect	object						
consciousness	knows	object						
mind	made of	mental factors						
mental factors	have kind	wholesome mental factors						
mental factors	have kind	unwholesome mental factors						
mental factors	have kind	emotional mental factors						
mental factors	have kind	social mental factors						
mental factors	have kind	miscellaneous mental factors						
wholesome mental factors	lead to	life						
unwholesome mental factors	lead to	death						
neutral mental factors	affects neither	life nor death						
wholesome	opposite of	unwholesome						
life	not guaranteed by	mental factors						
death	not guaranteed by	mental factors						
wholesome mental factors	depend on	context						
unwholesome mental factors	depend on	context						
neutral mental factors	depend on	context						
wholesome mental factors	are	wholesome						
unwholesome mental factors	are	unwholesome						
neutral mental factors	are	neutral						
emotional mental factors	can be	wholesome						
emotional mental factors	can be	unwholesome						
emotional mental factors	can be	neutral						
social mental factors	can be	wholesome						
social mental factors	can be	unwholesome						
social mental factors	can be	neutral						
social mental factors	can be	wholesome						
social mental factors	can be	unwholesome						
social mental factors	can be	neutral						
emotional mental factors	have kind	faith						
emotional mental factors	have kind	mindfulness						
emotional mental factors	have kind	ethics						
emotional mental factors	have kind	generosity						
emotional mental factors	have kind	creativity						
emotional mental factors	have kind	mental balance						
emotional mental factors	have kind	tranquility						
emotional mental factors	have kind	love						
emotional mental factors	have kind	kindness						
emotional mental factors	have kind	wisdom						
faith	is	ethical						

mindfulness	is	ethical						
ethics	is	ethical						
generosity	is	ethical						
creativity	is	ethical						
mental balance	is	ethical						
tranquility	is	ethical						
love	is	ethical						
kindness	is	ethical						
wisdom	is	ethical						
emotional mental factors	have kind	greed						
emotional mental factors	have kind	hatred						
emotional mental factors	have kind	delusion						
emotional mental factors	have kind	confusion						
emotional mental factors	have kind	envy						
emotional mental factors	have kind	miserliness						
emotional mental factors	have kind	regret						
emotional mental factors	have kind	conceit						
emotional mental factors	have kind	agitation						
emotional mental factors	have kind	laziness						
greed	is	unethical						
hatred	is	unethical						
delusion	is	unethical						
confusion	is	unethical						
envy	is	unethical						
miserliness	is	unethical						
regret	is	unethical						
conceit	is	unethical						
agitation	is	unethical						
laziness	is	unethical						
emotional mental factors	have kind	fear						
emotional mental factors	have kind	anxiety						
emotional mental factors	have kind	sadness						
emotional mental factors	have kind	desire						
fear	is not	ethical nor unethical						
anxiety	is not	ethical nor unethical						
sadness	is not	ethical nor unethical						
desire	is not	ethical nor unethical						
social mental factors	have kind	shame						
social mental factors	have kind	sociability						
social mental factors	have kind	empathy						
social mental factors	have kind	sexuality						
social mental factors	have kind	humor						
miscellaneous mental factors	have kind	perception						
miscellaneous mental factors	have kind	attention						
miscellaneous mental factors	have kind	intention						

miscellaneous mental factors	have kind	forgetting							
miscellaneous mental factors	have kind	concentration							
miscellaneous mental factors	have kind	energy							
miscellaneous mental factors	have kind	feeling							
miscellaneous mental factors	have kind	memory							
memory	has kind	working memory							
memory	has kind	short-term memory							
memory	has kind	long-term memory							
the cognitive process	is	receiving of and reaction to an object	The Cognitive Process						
the cognitive process	is	orderly							
the cognitive process	has stage	sensory input							
the cognitive process	has stage	cognition							
the cognitive process	has stage	behavioral output							
sensory input	leads to	cognition							
cognition	leads to	behavioral output							
five senses	receive	sensory materiality							
sensory materiality	has kind	sights							
sensory materiality	has kind	sounds							
sensory materiality	has kind	smells							
sensory materiality	has kind	tastes							
sensory materiality	has kind	touches							
five senses	produce	sensory information							
brain	receives	sensory information							
brain	uses	sensory information							
brain	generates	concepts of what to do							
concepts of what to do	includes	predictions of future							
concepts of what to do	includes	instructions							
instructions	has kind	muscular reactions							
instructions	has kind	visceral reactions							
sensory input	involves	neural transduction							
neural transduction	transforms input	sensory materiality							
neural transduction	produces	neural signals							
cognition	manipulates	neural signals							
cognition	occurs in	brain							
brain	located in	the skull							
behavioral output	transforms	neural signals							
behavioral output	produces	muscle movement							
behavioral output	produces	organ control							
muscle movement	is kind of	muscular reactions							
organ control	is kind of	visceral reactions							
cognition	has part	the Thinker							
cognition	has part	the Doer							
the Thinker	produces	predictions of future							
predictions of future	stored in	short-term memory							
the Thinker	receives	sensory information							

the Doer	produces	behavioral output						
the Doer	receives	sensory information						
the Doer	receives	thoughts						
the Thinker	produces	thoughts						
predictions of future	subset of	thoughts						
muscular reactions	subset of	behavioral reactions						
visceral reactions	subset of	behavioral reactions						
behavioral reactions	occur in	generations						
behavioral reactions	aided by	reflexes						
the Doer	produces	initial response						
initial response	is	fast						
initial response	is	imprecise						
fast	important for	survival						
the Doer	receives	predictions of future						
the Doer	produces	delayed response						
delayed response	is	slow						
delayed response	is	precise						
predictions of future	are	slow						
predictions of future	provide	context						
five senses	are	continually impinged upon						
the cognitive process	has rate	based on energy available						
the cognitive process	occurs	continually						
the cognitive process	occurs	extremely rapidly						
the cognitive process	has aspect	learning						
learning	is	slow						
the Thinker	learns by	comparing predictions to reality						
comparing predictions to reality	is	process						
reality	part of	comparing predictions to reality						
predictions of future	retreived from	memory						
predictions of future	compared to	reality						
reality	equals	the whole						
comparing predictions to reality	compares	prediction of future						
comparing predictions to reality	compares	reality						
comparing predictions to reality	creates	prediction error						
prediction error	improves	predictions of future						
the Doer	learns by	doing actions						
doing actions	is	process						
doing actions	leads to	feedback						
feedback	has type	feelings						
feelings	produced by	viscera						
feedback	has type	thoughts						
thoughts	produced by	the Thinker						
feedback	improves	doing actions						
materiality	is physical basis for	consciousness	Materiality					
materiality	physical support for	cognition						

materiality	has	location						
materiality	has kind	wholesome materiality						
materiality	has kind	unwholesome materiality						
materiality	has kind	sensory materiality						
materiality	has kind	biological materiality						
wholesome materiality	is	wholesome						
unwholesome materiality	is	unwholesome						
neutral materiality	is	neutral						
wholesome materiality	aids in	life						
wholesome materiality	aids in	survival						
unwholesome materiality	conducive to	illness						
unwholesome materiality	conducive to	death						
wholesome materiality	includes	requisites of living						
requisites of living	include	food						
requisites of living	include	water						
requisites of living	include	shelter						
requisites of living	include	clothing						
requisites of living	include	medicine						
requisites of living	must be	in right amount						
unwholesome materiality	includes	deadly phenomena						
deadly phenomena	includes	weapons						
deadly phenomena	includes	pathogens						
deadly phenomena	includes	lethal temperatures						
deadly phenomena	are	used against oneself or a loved one						
materiality	can be	wholesome						
materiality	can be	unwholesome						
materiality	can be	neutral						
wholesome materiality	depends on	context						
unwholesome materiality	depends on	context						
neutral materiality	depends on	context						
sights	are	photons						
sounds	are	sound waves						
smells	are	olfactory chemicals						
tastes	are	gustatory chemicals						
touches	include	force						
touches	include	temperature						
touches	include	tissue damage						
objects	are sources of	sensory materiality						
biological materiality	makes up	body						
biological materiality	has kind	nervous system						
biological materiality	has kind	senses						
biological materiality	has kind	viscera						
biological materiality	has kind	skeleton						
biological materiality	has kind	muscles						
nervous system	consists of	central nervous system						

nervous system	consists of	peripheral nervous system							
central nervous system	includes	brain							
central nervous system	includes	spinal cord							
brain	has area	lower brain							
brain	has area	middle brain							
brain	has area	higher brain							
the Thinker	located in	higher brain							
the Doer	located in	middle brain							
reflexes	located in	lower brain							
reflexes	located in	spinal cord							
reflexes	located in	peripheral nervous system							
peripheral nervous system	has part	somatic nervous system							
peripheral nervous system	has part	autonomic nervous system							
sense organs	has part	eye							
sense organs	has part	ear							
sense organs	has part	nose							
sense organs	has part	tongue							
sense organs	has part	skin							
sense organs	has part	tissue							
vision	function of	eye							
hearing	function of	ear							
olfaction	function of	nose							
taste	function of	tongue							
touch	function of	skin							
touch	function of	tissue							
viscera	has part	heart							
viscera	has part	lungs							
viscera	has part	guts							
viscera	has part	reproductive organs							
viscera	has part	lymphatic organs							
heart	part of	vascular system							
lungs	part of	respiratory system							
guts	part of	digestive system							
reproductive organs	part of	reproductive system							
lymphatic organs	part of	immune system							
skeleton	is	strong							
skeleton	is	mobile frame							
biological materiality	attached to	skeleton							
muscles	have kind	skeletal muscles							
muscles	have kind	smooth muscles							
muscles	have kind	cardiac muscles							
skeletal muscles	attach directly to	skeleton							
smooth muscles	line	viscera							
cardiac muscles	part of	heart							
skeletal muscles	connected to	somatic nervous system							

smooth muscles	connected to	autonomic nervous system						
cardiac muscles	connected to	autonomic nervous system						
biological materiality	consists of	cells						
cells	are	tiny						
cells	are	interconnected						
cells	depend on	energy						
cells	are individually	unconscious						
cells	possess	recondite intelligence						
nervous system	has	neurons						
neurons	are	cells						
neurons	have function	send signals						
neurons	have function	perform basic computations						
empty space	is absence of	materiality						
movement	is motion of	materiality	Movement					
movement	obeys	Newton's laws of motion						
movement	has kind	wholesome movement						
movement	has kind	unwholesome movement						
movement	has kind	neutral movement						
wholesome movement	is	wholesome						
unwholesome movement	is	unwholesome						
neutral movement	is	neutral						
wholesome movement	is movement towards	wholesome materiality						
wholesome movement	is movement away from	unwholesome materiality						
unwholesome movement	is movement towards	unwholesome materiality						
unwholesome movement	is movement away from	wholesome materiality						
neutral movement	is no movement relative to	wholesome materiality						
neutral movement	is no movement relative to	unwholesome materiality						
muscles	create	movement						
muscles	consume	energy						
skeletal muscles	create	behaviors						
behaviors	equal	behavioral reactions						
behaviors	include	moving						
behaviors	include	talking						
behaviors	include	interacting						
conditionality	is	inter-fabrication	Conditionality					
inter-fabrication	is	complex						
inter-fabrication	is	lawful						
inter-fabrication	involves	consciousness						
inter-fabrication	involves	mental factors						
inter-fabrication	involves	materiality						
lungs	receive	oxygen						
guts	receive	food						
guts	receive	water						
requisites of living	include	oxygen						
lungs	produce	energy						

guts	produce	energy						
guts	produce	nutrients						
energy	transferred to	blood						
nutrients	transferred to	blood						
blood	circulated throughout	body						
heart	circulates	blood						
blood	contains	energy						
cells	require	energy						
cells	require	nutrients						
neurons	require	energy						
neurons	require	nutrients						
body	dies without	energy						
body	dies without	nutrients						
body	slows down if no	energy						
body	slows down if no	nutrients						
the cognitive process	coordinates	survival behaviors						
survival behaviors	subset of	behaviors						
survival behaviors	include	breathing in air						
survival behaviors	include	eating food						
survival behaviors	include	drinking water						
survival behaviors	include	blood circulation						
blood circulation	function of	heart						
blood circulation	involves	blood						
survival behaviors	include	digestion						
digestion	function of	digestive system						
digestion	involves	food						
digestion	involves	water						
survival behaviors	include	balance						
balance	function of	subliminal reflexes						
balance	involves	wholesome movement						
survival behaviors	function of	subliminal reflexes						
subliminal reflexes	involve	subliminal consciousness						
subliminal reflexes	do not use	the cognitive process						
subliminal reflexes	involve	neural circuits						
neural circuits	involve	neurons						
subliminal reflexes	involve	lower brain						
subliminal reflexes	involve	spinal cord						
subliminal reflexes	involve	peripheral nervous system						
subliminal reflexes	related to	reflexes						
breathing	involves	subliminal reflexes						
breathing	involves	consciousness						
cells	produce	waste						
lungs	receive	waste						
guts	receive	waste						
lungs	output	CO2						

guts	output	urine						
guts	output	feces						
survival behaviors	include	breathing out						
breathing out	subset of	breathing						
breathing in air	subset of	breathing						
breathing out	expels	CO2						
survival behaviors	include	urination						
survival behaviors	include	defecation						
urination	expels	urine						
defecation	expels	feces						
feelings	based on	energy levels						
feelings	based on	cell health						
peripheral nervous system	produces	feelings						
pleasant feeling	type of	feeling						
unpleasant feeling	type of	feeling						
neutral feeling	type of	feeling						
positive homeostatic changes	corresponds to	pleasant feeling						
negative homeostatic changes	corresponds to	unpleasant feeling						
neutral homeostatic changes	corresponds to	neutral feeling						
positive homeostatic changes	related to	homeostatic feelings						
negative homeostatic changes	related to	homeostatic feelings						
neutral homeostatic changes	related to	homeostatic feelings						
homeostasis	related to	survival						
homeostasis	related to	energy levels						
homeostasis	related to	cell health						
feelings	have type	homeostatic feelings						
feelings	have type	emotional feelings						
the Doer	learns using	homeostatic feelings						
the Doer	learns using	emotional feelings						
homeostatic feelings	used to improve	survival behaviors						
homeostatic feelings	used by	the cognitive process						
emotional feelings	produced by	the cognitive process						
cells	need the right	temperature						
shelter	regulates	temperature						
clothing	regulates	temperature						
survival behaviors	include	shivering						
shivering	regulates	temperature						
immune system	uses	energy						
immune system	protects against	pathogens						
immune system	protects against	wounds						
wounds	caused by	weapons						
feelings of sickness	subset of	homeostatic feelings						
feelings of sickness	is	unpleasant feeling						
feelings	produce	behavioral reactions						
emotional mental factors	cause	visceral reactions						

visceral reactions	cause	emotional feelings							
medicine	alleviates	pathogens							
medicine	alleviates	illness							
immune system	creates	feelings of sickness							
hunger	type of	homeostatic feeling							
thirst	type of	homeostatic feeling							
homeostatic feelings	produced directly by	viscera							
feelings	are	feedback							
feedback	is for	learning							
sexual feelings	guide	reproductive behaviors							
reproductive behaviors	associated with	survival							
reproductive behaviors	associated with	survival of the species							
sexes	has type	male							
sexes	has type	female							
sexes	implicated in	reproductive behaviors							
reproductive organs	vary based on	sexes							
survival of oneself	subset of	survival							
survival of the species	subset of	survival							
birth	result of	reproductive behaviors							
birth	creates new	person							
person	experiences	aging							
person	experiences	death							
society	emerges from	interactions between people	Society						
interactions between people	involves	interaction							
interactions between people	involves	people							
people	plural of	person							
the Doer	rewarded for maintaining	homeostasis							
the Thinker	rewarded for minimizing	prediction error							
predictions of future	based on	somato-sensory information							
the Thinker	seeks	predictability							
the Thinker	controls	top-down pathway							
top-down pathway	controls	the Doer							
top-down pathway	used to reduce	prediction error							
predictability	inverse of	prediction error							
the Thinker	inhibits	actions							
the Thinker	causes	actions							
actions	form	complex behaviors							
complex behaviors	molded by	the Thinker							
complex behaviors	different from	survival behaviors							
the Thinker	uses	working memory							
the Thinker	uses	attention							
attention	used to understand	context							
working memory	used to understand	extended patterns							
predictions of future	held in	short-term memory							
predictions of future	compared to	reality							

comparing predictions to reality	reveals	prediction error							
prediction error	triggers	learning							
learning	updates	long-term memory							
the Thinker	creates	language							
language	is	process							
language	used for	wisdom							
language	is	concept							
language	represents	somato-sensory information							
language	based on	predictions of future							
predictions of future	depend on	past							
predictions of future	depend on	present							
words	correspond to	spoken sounds							
spoken sounds	subset of	sounds							
words	correspond to	written symbols							
written symbols	cognized via	sight							
prediction of future	corresponds to	next word in sequence							
the Thinker	predicts	next word in sequence							
the Thinker	receives	string of words							
string of words	made of	words							
words	made of	sequences of letters							
sentences	made of	sequences of words							
the Thinker	learns using	language							
language	represents	sequence of events							
nouns	represent	objects							
people	adjacent to	objects							
living things	adjacent to	objects							
verbs	represent	actions							
language	uses	nouns							
language	uses	verbs							
verbs	represent	movement							
verbs	have	tenses							
tenses	organize	time							
tenses	have type	past tense							
tenses	have type	present tense							
tenses	have type	future tense							
the Doer	has input	language							
the Doer	imparts	emotional significance							
language	gains	emotional significance							
language	expressed as	communication							
communication	type of	actions							
communication	has type	verbal communication							
verbal communication	generates	speech							
speech	created via	mouth							
speech	created via	vocal cords							
mouth	controlled by	muscles							

vocal cords	controlled by	muscles						
speech	heard by	another person						
another person	interprets	speech						
speech	functions as	signal						
signal	indicates	approach						
signal	indicates	withdrawal						
approach	is	movement						
withdrawal	is	movement						
communication	creates	shared understanding between people						
shared understanding between people	basis of	culture						
shared understanding between people	basis of	society						
shared understanding between people	involves	critical concepts						
critical concepts	concern	requisites of living						
requisites of living	have	ownership						
critical concepts	concern	ownership						
requisites of living	needed for	survival						
boundaries	depend on	ownership						
economic transactions	depend on	ownership						
possessive parts of speech	represent	ownership						
language	uses	possessive parts of speech						
shared understanding between people	defines	ownership						
people	perform	transactions						
transactions	exchanges	goods						
transactions	exchanges	services						
services	are type of	actions						
transactions	requires	shared understanding between people						
shared understanding between people	determines	price						
price	depends on	supply						
price	depends on	demand						
demand	type of	desire						
goods	type of	materiality						
economy	consists of	transactions						
demand	seeks to fulfill	homeostasis						
transactions	use	money						
money	represents	price						
shared understanding between people	can concern	future						
future	basis of	written laws						
future	basis of	unwritten laws						
laws	have	consequences						
laws	are type of	promise						
promise	made possible through	the Thinker						
promise	made possible through	memory						
loans	are type of	promise						
the self	is	concept						
the self	comes from	dependent origination						

dependent origination	involves	the Doer						
dependent origination	involves	the Thinker						
person	has	self						
self	is	point of view						
self	is	unique perspective						
self	comes from inhabiting	mind						
self	comes from inhabiting	body						
self	comes from owning	mind						
self	comes from owning	body						
self	can be explained to	another person						
empathy	involves explaining	self						
person	introspects about	self						
person	introspects about	purpose						
person	introspects about	feelings						
person	has	thoughts						
thoughts	can be	honest						
thoughts	can be	dishonest						
thoughts	implies	future behavior						
honest	similar to	ethical						
dishonest	similar to	unethical						
honest	similar to	wholesome						
dishonest	similar to	unwholesome						
person	asks another person about	self						
person	asks another person about	purpose						
person	asks another person about	feelings						
another person	replies with	speech						
speech	can be	honest						
speech	can be	dishonest						
speech	implies	future behavior						
the Thinker	conditions	the Doer						
the Doer	receives	thoughts						
the Doer	produces	actions						
person	asks for	feedback						
person	receives	feedback						
feedback	comes from	another person						
evolution	has step	selection	Evolution					
evolution	has step	reproduction						
evolution	has step	variation						
evolution	is	cyclical						
reproduction	follows	selection						
variation	follows	reproduction						
selection	follows	reproduction						
selection	requires	wholesomeness						
wholesomeness	level of	wholesome						
wholesome	has meaning	attractive						

selection	acts on	population						
population	similar to	society						
selection	determines	reproduction						
reproduction	produces	descendents						
descendents	come into world via	birth						
reproduction	repopulates	environment						
variation	introduces	random changes						
variation	modifies	descendents						
population	becomes incrementally more	wholesome						
evolution	can be considered form of	learning						
evolution	occurs over	generations						
evolution	affects	nervous system						
evolution	increases	wholesomeness						
evolution	shapes	reflexes						
evolution	shapes	instincts						
reflexes	set at	birth						
instincts	set at	birth						
evolution	does not directly affect	experience						
freedom	is	temporary destruction of suffering	Freedom					
learning	receives	unwholesome mental factors						
learning	produces	wholesome mental factors						
ignorance	receives	wholesome mental factors						
ignorance	produces	unwholesome mental factors						
ignorance	type of	delusion						
order	receives	unwholesome materiality						
order	produces	wholesome materiality						
chaos	receives	wholesome materiality						
chaos	produces	unwholesome materiality						
learning	creates	freedom						
order	creates	freedom						
ignorance	produces	suffering						
chaos	produces	suffering						
suffering	opposite of	freedom						
learning	is	impermanent						
ignorance	is	impermanent						
order	is	impermanent						
chaos	is	impermanent						
suffering	is	impermanent						
freedom	is	impermanent						
wholesome	similar to	pragmatic	Notes					