DSRP Script

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Abstract: One of the tools needed for metacognition is to be able to language our thinking. DSRP provides this language. Another tool needed is a visual grammar. This too has been developed in DSRP systems mapping language ([1]). A tool that is missing is a simple scripting language for thinking structures that can be used in inline text in papers, written works, social media, texting, etc. This paper explicates the characters and form of a DSRP Scripting Language.

Keywords: cognitive jigs | molecular structures | systems thinking | DSRP | atomic structures | frameworks | problem solving | critical thinking | creative thinking | metacognition

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1. To Language Thinking

If we are to move beyond our thinking that got us here [*]. If we are to do more System 2 thinking and less System 1 thinking ([2]). If we are to think different [†]. If we are to learn how to think, rather than merely what to think ([3]). Then, we must be able to *language* our thinking. We must be able to put it into words, give it voice, write it down, be able to see and hear it. There is an alphabet to cognition, a grammar, a prose, a seeable, readable, speakable, communicable, listenable, correctable, changeable structure to it all. The ability to put our thinking into words, both literally and metaphorically, is by its very nature *metacognition*. And, research shows that increases in metacognition lead to positive increases across all domains ([4]–[7]).

So, we need to language our thinking. In large part, for this purpose, DSRP serves as a guiding theoretical structure. Variants of this theory include *DSRP Diagramming* (a visual grammar) and *DSRP Scripting* (a symbolic grammar). This paper details DSRP Scripting. It is important, at the outset, to describe some of the goals of a DSRP Script. A Universal Cognitive Script Language or DSRP Script should be:

1. easy (generally)

2. easy to type or write by hand on a napkin

3. easy to draw by hand or on a computer

4. readily available on a basic keyboard (in word or google docs)

5. makes it possible to linearize a nonlinear drawing

6. blind experiment (someone who knows the syntax will draw the same drawing)

7. editable without an eraser

8. extensible (can be easily mixed and matched)

9. cut and pastable (no)

10. universal but not constraining (e.g., a circle is a square is a rectangle, etc)

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[*]"We cannot solve our problems with the same thinking we used when we created them." Albert Einstein

[†]Think Different Campaign: "Here's to the crazy ones — the misfits, the rebels, the troublemakers, the round pegs in the square holes. The ones who see things differently — they're not fond of rules. You can quote them, disagree with them, glorify or vilify them, but the only thing you can't do is ignore them because they change things." Steve Jobs

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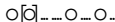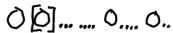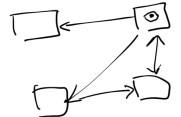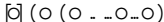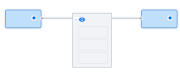
There are of course many possibilities for the types of characters one might use to accomplish this task. We have selected what we feel are the "best in class" taking into account the many considerations (e.g., ease of use, availability, etc.). Table **??** shows the various characters for different configurations of D, S, R, and P as well as a few other necessary characters.

Table 1. DSRP Script Key

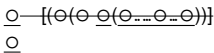| Symbol	Atomic Structure/Element
Basics	
○	Dio (identity-other Distinctions). Variants include: ● for other; any shape
(x)	Spw (part-whole Systems). Variant: (○ (○○ . . .)) = *a whole with two parts, etc.*
—	Rar (action-reaction Relations). Variants include: ←→↔
$[x]\underline{x}$	Ppv (point-view Perspectives). [ ] is Ppoint and _ is Pview.
Combinations	
(○)	DS. A Distinction (Dio) that is also a System (Spw)
[○]	DP. A Distinction (D) that is also a Perspectival (P) point of view.
[(○)]	DSP. A Distinction (D) that is a part-whole System (S) and a Perspectival (P) point of view.
⊖	RD. A Relation (Rar) that is also a Distinction (Dio). Variants: ←⊖– –⊖→ ←⊖–
(–)	RS. A Relation (Rar) that is also a System (Spw)
(⊖)	RDS. A Relation (Rar) that is also a Distinction (Dio) and a System (Spw)
[(⊖)]	RDSP. A Relation (Rar) that is a Distinction (Dio), a System (Spw), and a Perspective (Ppv)
○–…	Relations among ordered-parts. 4 subdots (…) indicate that 1 is directionally related to 4.
Other	
*	Multiplied across; carry-out across
x	Any structural symbol/set of symbols
∀	All; includes all of whatever follows it
. . .	repeat out to n; etcetera; more
⤳	transform; what precedes it is transformed to what follows it
◑	Only used for the Atomic Structures to indicate the dual-nature of the elements.
red	Content-specified
black	Content-agnostic

With this simple, readily available (in Google Docs or MS Word) character set, most DSRP configurations are possible from simple structures to increasingly complex ones. Table 2 illustrates five different example structures across four different diagramming techniques: DSRP Script (typed), DSRP Script (hand-drawn), DSRP Diagram (software), and DSRP Diagram (hand-drawn).

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Table 2. DSRP Scripting and DSRP Diagramming

	DSRP Script (typed)	DSRP Script (hand-drawn)	DSRP Diagram (software)	DSRP Diagram (hand-drawn)
Example 1: One identity causing another identity (cause and effect)	o⊖→o			
Example 2: 4 identities related in a particular way	o[ō]‥—o—o‥			
Example 3: A point-of-view on this but not that	[ō] (o (o ‥ ‥o‥o)			
Example 4: A relationship between two identities that is also a Distinction, System (unspecified parts), and Perspective (a.k.a., RDSP)	o[⟨o⟩]o			
Example 5: An RDSP where one of the parts recognizes itself as the relationship but nothing else	o—[(o(o o(o‥—o‥o))]o			

An evolving set of cognitive jigs can be scripted or mapped in similar fashion using the DSRP Scripting language. For example, the structural formula for an analogy jig is: (O—O)—(O—O) which simple says that there are two related elements forming two systems ((O—O) and (O—O)) that are themselves related by a content-specified relationship (in this case the —. Table 3 lists the known jigs (8).

Table 3. Glossary of Known Jigs

Jig Name	Structure	Atomic No.	CAR No.	Description
Compare and Contrast	o↔o	2/4	0.50	A common jig that helps us to Distinguish how things are different and/or the same by using compare/contrast relationships. See map.
Dio Opportunity Cost	(o(o…))(●(o…))	2/4	0.50	Dio means Distinction and its two elements identity and other. In this alternative case, you are thinking more about the "o" that occurs when you decide the "i". This jig identifies the "opportunity cost" of making a distinction. See map.
Feedback Loop	o ↔ o	2/4	0.50	A popular variation on Cycle Systems where 2 or more identities are relating in such a way as to alter each other in feedback. See map.
Linear Feedback Process	o →← o, …	2/4	0.50	A jig that illustrates a linear process of related elements in which each successive element exhibits feedback to some or all previous elements. See map.
Bracket	(o↔o)→o, …	2/4	0.54	A Bracket Diagram used in many sporting events. See map.

Jig Name	Structure	Atomic No.	CAR No.	Description
Cause-Effect	○→○	2/4	0.67	An often used and familiar jig establish a related cause and effect. Read more.
Evolutionary Tree	○→○, . . .	2/4	0.67	A linear tree with branches showing the relationships between predecessors and successors. See map.
Fishbone	○→○, . . .	2/4	0.67	Also called an Ishikawa Diagram or a cause and effect diagram, is a jig for distinguishing the potential causes of a problem in order to identify its root causes.Read more.
Hierarchical Tree	(○−(○, . . .), . . .)	2/4	0.67	A hierarchical tree is quite similar to a bracket diagram but red top-bottom rather than left-right. Read more.
Inference	○→○	2/4	0.67	A conclusion reached on the basis of evidence and reasoning. See map.
Metaphor	○−○	2/4	0.67	Note that a slight change in the fixed information can change the jig from a metaphor to a simile. Read more.
Simile	○−○	2/4	0.67	Note how some of the information or structure of a jig can be either variable or fixed. Read more.
Sequence-Flow Map	○→○, . . .	2/4	0.67	A linear sequence of identities and relationships (like a number line). A variation on the sequence/flow jig involves variables that are plotted over time or in stepwise relation to each other but that can include multiple levels or scales and identities can have parts (S). Flow maps can be entirely linear, or contain feedback and the variables themselves can contain parts. See map.
Dio List	(○(○. . .))(●(○. . .))	2/4	1.00	Dio means Distinction and its two elements identity and other. You're making a list of the two elements. Very helpful in defining things at a basic level. See map.
RD Barbell	○−○−○	2/4	1.00	A barbell where the Relationship (R), is also a Distinction (D). (See Barbell Jig and RDS Barbell). Read more.
Cycle	. . .—○—○—. . .	2/4	1.00	A set of 2 or more identities that are related in a circle (e.g., a feedback loop; a cycle, etc.). See map.
Continuum	(○. . .○)	2/4	1.00	A continuum jig is used to plot a few options (usually 2, 3, 4) "along a continuum." It should be noted that there is always at least an implicit organizing perspective that creates the continuum (from X to Y, Less A, More B, etc). See map.
List	(○(○. . .))	2/4	1.00	A list is a very well-known and popular jig that allows for a part-whole itemization. Read more.
P-circle	[○] [○]. . .*□	2/4	1.00	The "Perspective Circle" Jig: A simple common structure that looks at a view from multiple points. Create a circle of perspectives around any item, situation, event, or system. Read more.
nth-order P	. . .[○][○]□	2/4	1.00	A common structure that helps us see our bias in looking at a perspective. Sometimes it is important to look at a perspective on a system from a second-order perspective or an nth-order perspective. See map.
R-circle	○—*○○. . .	2/4	1.00	An R circle is just a bunch of variables relating in some way to a center variable. The Rs could be causal or not. Often used to map webs of causality in relation to some effect. See map.
Table	(○) ∀*↔*∀ (○)	2/4	1.00	A part-whole jig consisting of a square grid of parts. Read more.
Barbell	○—○	2/4	1.00	A simple common structure that helps us zoom into the relationship between two things. Named after a "barbell" because of its structure. Read more.
R'n R	—*(—,—)	2/4	1.00	R'n R Jig or Relate the Relations Jig makes relationships between a set of relationships. See map.
P on Rs	[○](— — . . .)	2/4	1.00	P on Rs Jig takes a perspective on a set of Relations. See map.

Jig Name	Structure	Atomic No.	CAR No.	Description
Analogy	(○—○)—(○—○)	3/4	0.89	Note how some of the information or structure of a jig can be either variable or fixed. Read more.
Commonality by P	○● ⤳ [○](○)(●) ⤳ (○(○○))	3/4	0.89	a.k.a. Fruit jig because when a situation gives you apples and oranges (i.e., incompatibilities) sometimes you have to look for the common whole which is born of the common part(s). See map.
RDS Barbell	○—(—)—○	3/4	1.00	A barbell where the Relationship (R) is also a Distinction (D) and a System (S). Read more.
Category	[○]○	3/4	1.00	A popular and problematic jig because of its mass use usually involves leaving the perspective explicit, giving the false impression that thing are fixed in their groupings. Read more.
Jig Mix and Match	(□ ↔ □)	3/4	1.00	A jig that allows you to mix and match other jigs to make new compound jigs. Very powerful. Read more.
P to S	[○] □ ⤳ [(○)] □	3/4	1.00	A jig to help avoid the bias of homogeneous perspectives of groups (or an individual). Rather than turning an S into a P like in S-to-P jig, you're turning a P into an S. See map.
R-channel	(○(○...)) (↔(↔ ...)) (○(○...))	3/4	1.00	A simple structure that can be used to compare the relationships between two systems made up of parts. Any time you want to relate two systems, an R-channel is the jig for you. It's called an R-channel because the structure of the jig "opens up a channel of space" in the middle to create many relationships across the systems. Read more.
S of Rs	(— — ...)	3/4	1.00	System of Relationships Jig (S of Rs): An important jig where a set of relationships (Rs) are seen as working as a system (S). Read more.
S to P	( )⤳ [( )]□	3/4	1.00	S to P Jig (System to Perspective): A common structure jig where a system of related parts (a part party) is transformed into a perspective that can be used to look at a problem, situation or phenomenon differently. Could also be called, S to P on an S Jig because this jig is a great way to solve a problem and use an understanding of the system you are analyzing to abstract an overarching lens to be used in future evolutions of the current problem system or future systems. Read more.
XY Graph	(○...○)∀ ↔ ∀(○...○)	3/4	1.00	A Cartesian Graph. A well-known and often used jig that combines two Continuum Jigs with a system of parts plotted on each axis. (btw it takes two continuum jogs to make an XY Jig). Read more.
Part Party	—*∀(○, ○)	3/4	1.00	Standard Part Party: A Jig that helps us to relate the parts of a whole. Like a good party, the parts need to interact. A pervasive jig of all complex systems. Any good party involves interactions between the guests. Cognitive systems are no different–the parts must "part-ay." Read more.
RD Part Party	—○—*∀(—)	3/4	1.00	A Jig that helps us to distinguish and relate the parts of a whole. (See Standard Part Party Jig). Read more.
RDS Part Party	—(○)—*∀(—)	3/4	1.00	A Jig that helps us to distinguish and relate the parts of a whole. (See Standard Part Party Jig). Read more.
Rar Cycle	(○)—(→↔←)—(○)	3/4	1.00	Rar Jig is a composite of things you can do with the most basic elements (action-reaction) of Relationships (R). It is a very powerful set of jigs that can be used to zoom into what is really going on when two or more things relate. Rar zooms into the dynamics of any Rs but especially psychotherapeutic or CBT (stimulus-response, etc). Read more.

Jig Name	Structure	Atomic No.	CAR No.	Description
D to RD	○ ⤳ □—○—□, . . .	3/4	1.00	Take an identity and transform it into a Relation and then ask all the things it relates as a barbell between two Ss. See map.
RDSP Barbell	○—[⊖]—○	4/4	1.00	Add P to the R on an RDS Barbell. Read more.
RDSP Part Party	—[⊖]—*∀(—)	4/4	1.00	Add P to the R on all the RDS Barbells between parts in the S. Read more.
DSRP Ecology	(○ ( ) – [ ])*□	4/4	1.00	The Basic DSRP Ecology Jig: A jig, like ecology jig that explicates DSRP structure relatively consistently across all elements. See map.
Max DSRP Ecology	(○ ( ) – [ ])*∀□	4/4	1.00	The Max DSRP Ecology Jig: A jig where every element in the network is also a perspective ON the network. Read more.

2. Conclusion

DSRP Script is can be a useful tool in scripting specific simple and complex structures. Overtime, additional character developments may be possible to simplify or extend the existing character set shown in Table 1.

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