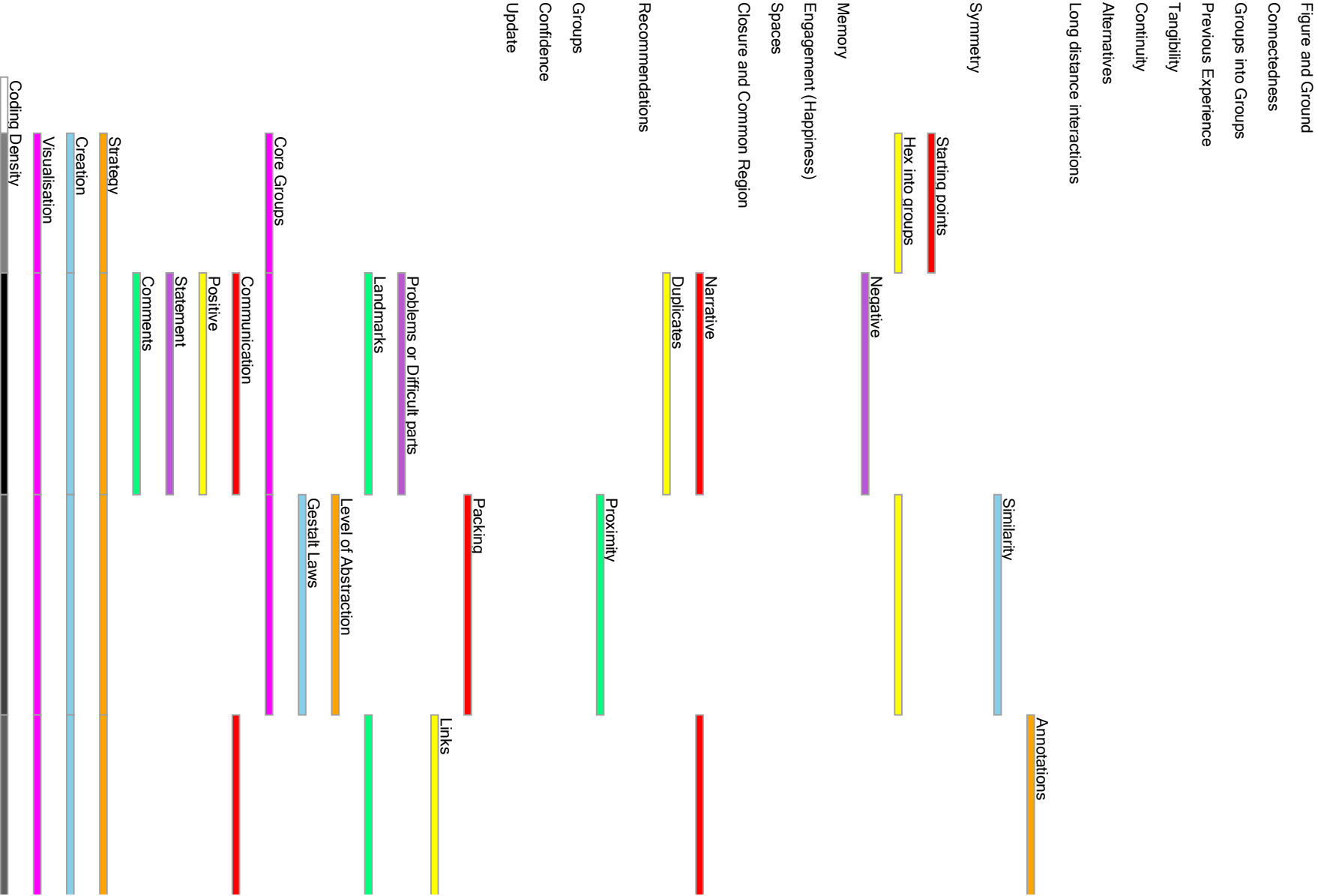


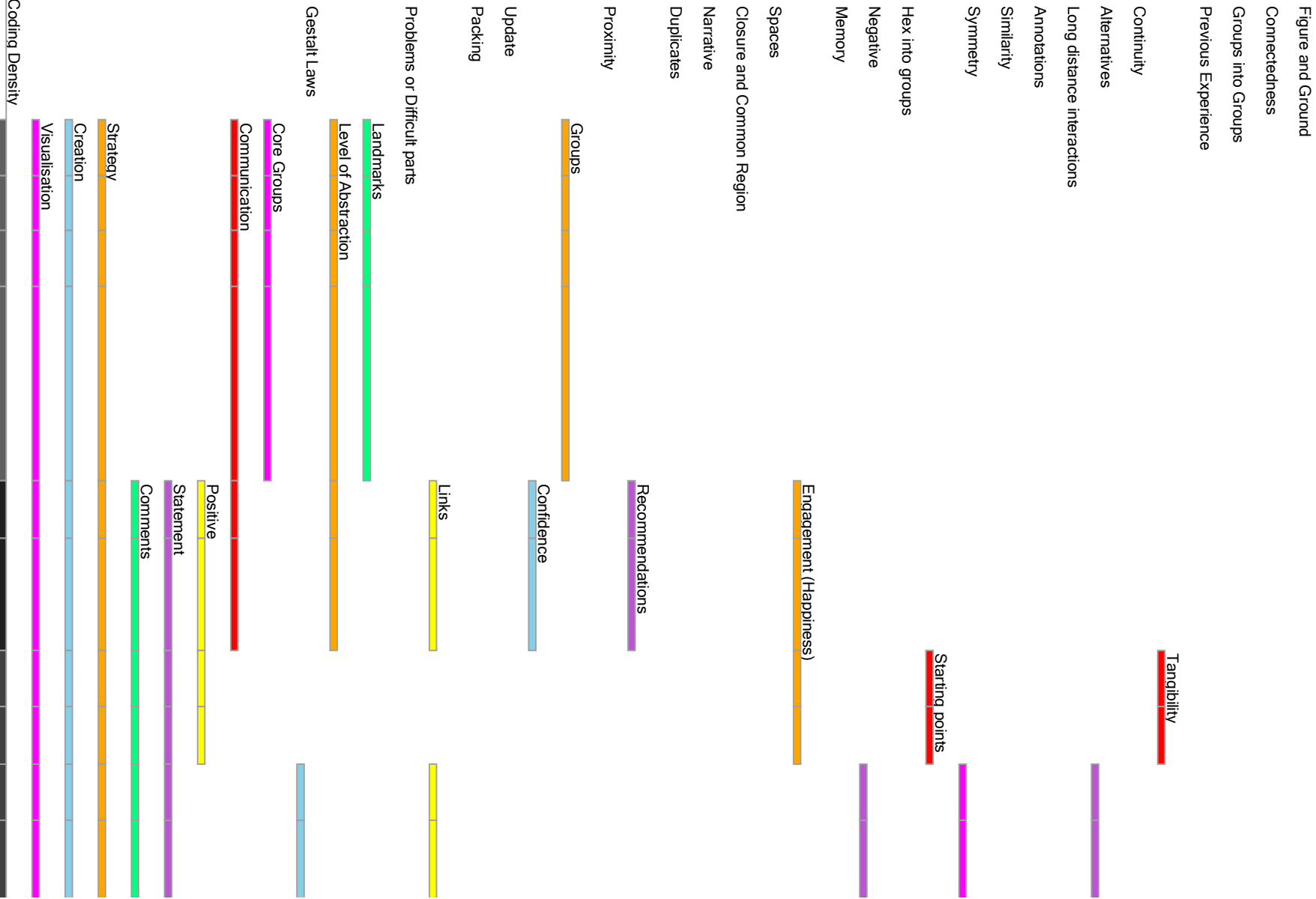
	Timespan	Content	Speaker
1	0:00.0 - 0:11.7	Okay. So, the first thing is, can you explain me what you have done here?	SP
2	0:11.7 - 0:40.9	Erm... well I grouped the words according to more or less the field, or where they belong. For example 'universe', 'nuclear', 'theory' it sounds to me like physics, this seems to me like art or design, more expression things. This same with all of them. But there were some of them that would stand out because people give them more importance, because of the media or because of our preferences, or, you know... how we think or etc. Over here in the news.	
3	0:40.9 - 1:34.1	And also there were some other words that would seem to be... erm... part of different... of the same... of different conceptual groups. For example 'laser' belongs to physics, but also belongs to, when I think of lasers, I think of technology and networks and things like that. So, so, and then finally I thought it would be good to convey the purpose of the institution because this is research and funding things. That the main purpose, the main thing, the main purpose is the 'people' which is why I put it in the middle. So that 'people' is no related to thinking about it in terms of research or anything like that. When you hear about research you think 'oh, how can I apply this' so I think in terms of conveying and communicating, if you put 'people' first you will think 'okay, so everything must be related to people in some way'.	
4	1:34.0 - 2:28.4	So... erm... then each concept I grouped it in, you know, these little things, so that one of them is on top. For example, I didn't do it very well, in 'universe' for example, so 'universe' inside it has 'stars' it has the 'solar' like sun, it has, you know it has 'atoms' and all these things, it's also theoretical physics. So all these things belong to more-or-less physics, belong to more-or-less universe. And also, but also the thing that stands out the most in my opinion in this group is 'universe'. So for example in this one that stands out the most for me will be 'quantum', it'll also ring bells in people's minds. The same with 'network'. I chose 'network' I chose 'climate' because it is very mediatic[???]. I chose 'public' here because it's related to 'services', 'children' and 'schools' and public services in general. 'Social' because there are racial problems, 'food', 'religion' and so on.	
5	2:28.4 - 3:34.3	Here I put in front 'Africa', yes. 'Brain', 'Language', 'drugs', 'reactions', and 'hormones' and all this and so on. And then, so for example, 'patient' here is the same as 'laser' because it belongs to biology but also belongs to health and people. So, more-or-less it's like a chain with people in the middle and then it branches out. Through 'cultural', through cultural you can go to art, but you can also go to physics, because both of them in my opinion are cultural. 'Technology' I... is this more this side because it's more 'network', 'laser', 'quantum' all this area.	



		'Climate' is 'energy', so 'energy' branches out and from energy you can go here and you have 'carbon' and all these things here. 'Health' branches out to 'biology' but also 'patient'... kinda of link middle world. And 'community' links out to 'Africa' and together with 'policy' and public services and finally 'social'. And then I just put these arrows very badly because I... and... but I like the idea of putting this thing in the middle because it gives you the structure of branching out from people in the middle.	
6	3:34.3 - 3:45.6	Yeah, so... is the main purpose of the branching to just tell the story or to make a story about the whole overview?	SP
7	3:45.6 - 3:57.4	It's to... it's to convey the idea that 'people' will be at the center of... ultimately of any research and also that everything is interconnected. Erm...	
8	3:57.4 - 3:59.1	Okay... yeah...	SP
9	3:59.1 - 4:26.7	Does that reply answer the question, or...? more-or-less... it's not to to tell a story in general because, because, you know culturally you're going to different fields. It's more to relate conceptually that, you know, that 'technology' is both 'network' and 'computers', and 'physics' and 'quantum' things. Or, 'energy' is related to networks as well or whatever. You know	
10	4:26.7 - 4:31.0	Did you feel like you were doing that because you're trying to do like a narrative?	SP
11	4:31.0 - 4:44.9	Oh yes. Well, yeah perhaps I was thinking more of the... how to convey the purpose of research and the... yeah... you know, convey the ideas to the public in that sense.	
12	4:44.9 - 4:53.1	Got it. So, you were saying when you were creating your groups that you put like the most important one... [on top]	SP
13	4:53.1 - 4:55.3	Rather than most important...	
14	4:55.3 - 5:06.3	Or... I was just wondering about that, is it... like... what is it, is it like the core of the group, or is it like the most important, or... how do you think about it?	SP
15	5:06.3 - 5:57.0	Okay, I think it depends on the group. In 'universe' it is very easy because 'universe' comprises everything and because it's related to physics, so it's within the physics group and also it's from above... to going inside, right? Like stars and so on... but for example with 'climate'... erm... 'climate' is kinda summing up everything related to 'earth' in this case. In this case it's not going from out to inside, in this case I put it because it's more mediatic and because it's more related to... because 'carbon', 'ice', 'arctic' and most of the words, but not all of them, for	



		example 'earthquake' is not, are related to 'climate' in some sense. But just related to, not because climate is more important than, you know, earthquakes, or 'aerosols'.	
16	5:57.0 - 6:39.6	Here because it is the same, 'species' is because 'bateria', 'plant', 'animal', 'evolution', in the same way as 'universe'... but, in here, for example 'brain', 'drugs' and so on is because all of them is kinda related to the main organ. In 'virus' I put 'virus' I was thinking when I was doing that because of ebola. And... I had some things about genes and... and... [??] how can you... they are related to viruses and I have a friend who is doing some research on bacteria and genes and proteins and things like that. It's kinda like, dunno, it's not the same here as in universe, right?	
17	6:39.6 - 6:50.5	Yeah, does it... does that top card kinda like is the meaning of all the group?	SP
18	6:50.5 - 6:50.6	Kind of, yes	
19	6:50.6 - 6:51.9	Or is it might be meaning or relationships...	SP
20	6:51.9 - 7:40.4	Yes, that's what I tried to do, yeah. If, for example, if you only pay attention to, because maybe I was to put all of them like this, but then I was a little bit lazy and I put them like this more, but 'art' would be in the center and all of them would be like, around it. So... the purpose of this was that... if someone, because people don't spend much time looking at things. So if something needs to just at least one word, one concept, that would kind of summarise. Because, summarise all of them. So if you just look at 'art' everyone has slightly different ideas of art. So one person can think of image, where a person can think of music, or text... so the idea was yeah, the most... kind of, so that because the other ones relate to art in some sense	
21	7:40.4 - 7:53.4	Yes, yes, I think I got it. I was just wondering how happy do you feel about this overview? Do you feel like... really happy about it, or will you show it to someone?	SP
22	7:53.4 - 8:27.7	Yeah, yeah, because I think it is... yeah, I was happy about it because I think... this with some artwork... you know, properly done, I think it would be a nice concept to convey all these ideas, because it's so difficult to do just in one poster to put all these ideas. So, yeah, I think I like the concept of putting people in the middle and then branching out to the rest of the sciences and art and things. Or the application of the research	
23	8:27.7 - 8:29.6	Did you find the task a little bit difficult, or...	SP
24	8:29.6 - 8:44.2	At first I totally didn't know how I was going to do it. But then when I was doing it, it was more... putting	



		together a puzzle, like a jigsaw. It was fun, easier than what I thought.	
25	8:44.2 - 8:54.5	What about for the whole overview, did you find did you have a... some part that you really don't like?	SP
26	8:54.5 - 9:27.0	No... perhaps I thought less about this area. I would make it more symmetric with this. But... but, no, I like it! I like the link words, yeah. Perhaps if I had more time or if it were a real job I would change small things, perhaps to put more link words, to make it more symmetric, or... something like that, but in general I'm happy	
27	9:27.0 - 9:45.7	Okay, let me ask you a little bit about the... the... how you actually created the chart. So you said that you started by doing the small groups. Did you start in any... did you start it anywhere, or was it just the groups that you found?	SP
28	9:45.7 - 10:26.0	Errm... well, the first ones that came up were physics related. So I started to put 'stars' here in the middle. And then, when I decided, when I saw other words that were totally different, like 'blood' and I say 'okay that's like a biology thing as well', so I put it here. So I was kinda separating that way. But then, I ran into problems because I saw that 'network' is related to 'algorithm', but also, you know, 'sensor' is also related to physics or to engineering or technology, so how to make a decision whether, how to group them. Because some of them will be, could be, arguable in different fields.	
29	10:26.0 - 11:15.5	And... and then also I decided to put them in the groups like this because... otherwise it will be a mess, if I have all of the words spread out in the same hierarchy, I think visually it's not attractive, or it's not... doesn't allow people to convey anything whatsoever, if you see like a mess people won't even look at it, you will just pass by. So that's why I decided that's why I should do a hierarchy. And finally when I saw people I would say, 'okay, people could related to all of it' And also, because people have the, you see the word, people have the idea that, you know, research is something that scientists do in their offices or their labs, they will see the connection with real life. So, by putting this in the middle, yeah, perhaps, it would allow to make this connection	
30	11:15.5 - 11:25.4	Yeah, that's very interesting. So, I was just wondering if you... so, you started with your groups. Did you try and join groups together, or...	SP
31	11:25.4 - 11:41.8	Yes, but I didn't know how. So that's why, for example, within physics see how I have one thing then the other. And then within biology, I have viruses, the group of 'viruses', the group of 'brain', the group of 'species'... so I didn't know how to link them together and that's why, erm...	
32	11:41.8 - 11:50.2	Did you think you had to link them together or compress them, or maybe make everything really tight, or... was that something you wanted to do?	SP



33	11:50.2 - 13:01.1	Yes [in reference to linking them together]. A little bit of everything, because that's why I put them, I compressed them by putting them like this. And I wanted to relate them, because for example this is the biology area, this is the social area, this is the physics area, this is the technology and others, like climate and so on, like more mediatic area, perhaps. So yeah, I... there was a... I had to link them, but not sure how to decide to make a decision as to how I would do that. So, so for example that's why when I say with artwork, because if there was a way to put a colour here... like green, biology green, or red because of blood and things like that. Social, I don't know like more whitey-ish, or perhaps a religious symbol. School, so children or something. You know, here the stars it is very obvious... so here, some music or, text or poetry or something. And here the 'earth' so... you know, because I don't know what the purpose is, because it's black you cannot do these things. And with this I wouldn't be able to... perhaps I would have drawn something... but I'm not very good at drawing, that's why I didn't even try. Even with the arrows I'm not happy with the arrows!	[INTERESTING ABOUT THE COLOURS!]
34	13:01.1 - 13:21.6	But, yeah, perhaps one thing that I would change would be... if I cannot change the background, perhaps here drawing a nerve... or here drawing stars, here drawing children, and here drawing a plant. Yes.	
35	13:21.6 - 13:27.1	I mean, you could have write on the actual paper... but, but that's fine!	SP
36	13:27.1 - 13:37.2	Oh! I didn't think about the colours, erm, but yeah, yeah, that would have been great. Otherwise, I wouldn't have done these [arrow hexes].	
37	13:37.2 - 13:44.3	I mean, that's, that's fine, I kind of left it very ambiguous, to see what people would actually do. So it's fine.	SP
38	13:44.3 - 13:55.3	If I had of thought about it, I would have done sort of like clouds, grouping them together and then a link between them... like everything would be linked, that's for sure	
39	13:55.3 - 14:34.9	Okay, right, got it. Erm... I was just wondering too... say, for example you have a few that you said they might fit into many groups. If you think, if you had like two of three cards for the same like word on them, would that be useful, or...? Say for example one that was really ambiguous, I don't know, like... erm... like... 'public' maybe or something like that. If you could have like repeated ones, will that be helpful, or?	SP
40	14:34.9 - 15:19.1	Yeah, well... in my opinion, 'public' wasn't... but, for example, 'hormone' could go with 'brain' as well, so I could have put it with brain. Or 'protein' or, something like that, no? It depends on the field. No, I don't think it would have... I wouldn't have... I don't think I would have liked that, because... I think the person who makes this, has to make these decisions of, I put 'universe', I put 'theory' more in 'universe' rather than in 'quantum', even though there is theory on both, you know quantum mechanics and, you know, universe things.	

Figure and Ground

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Continuity

Alternatives

Long distance interactions

Annotations

Similarity

Symmetry

Starting points

Hex into groups

Negative

Memory

Engagement (Happiness)

Spaces

Closure and Common Region

Narrative

Recommendations

Proximity

Groups

Confidence

Update

Packing

Links

Problems or Difficult parts

Level of Abstraction

Gestalt Laws

Core Groups

Communication

Positive

Statement

Comments

Strategy

Creation

Visualisation

Coding Density

41	15:19.1 - 15:37.9	But if I had 'theory' in both, I think it would have been confused because... perhaps... let me think a bit.	
42	15:37.9 - 16:15.3	Because if I am, if I am reading it for the first time, this, and I see 'theory', 'theory' here then I don't know what they mean by 'theory'. Like, erm... but here I can have a sense of, even though, for example, in my opinion, 'theory' I think more about quantum mechanics, for example. But if I say 'universe' and 'theory' it's a clear idea of what theory means, and from there I can extend to here. So I can do this work in my mind. However, if I see 'theory' here and 'theory' here it could be ambiguous and lose meaning. The word would lose meaning for me. In this case. Yeah.	
43	16:15.3 - 16:51.3	Okay, right. Let me ask you something, say, let me see, if I can find one. Say, you have 'network' here... and then you have a few of them which are really close to 'network', like 'data'. And then you have ones that are a little bit farther away. Do you think that makes any difference, or do you think that it is a little bit less related to that group, or... it really doesn't matter that they are, a little bit... a little bit more distant.	SP
44	16:51.3 - 17:05.3	Perhaps it doesn't matter. For example I see 'image'. Image could be more ambiguous, because I thought of like 'image' as image processing and things like that. But, here, you have 'design', 'art', ah, you have two 'images' here. I didn't realise.	
45	17:05.3 - 17:10.8	Oh, one is 'imaging', one is 'image', yes. So they are slightly different, yes.	SP
46	17:10.8 - 17:17.7	'Imaging'? But I was thinking of imaging. I was thinking of imaging processing, things like that. Is that what it is?	
47	17:17.7 - 17:23.9	That, that is what it is, so you're right, yes.	SP
48	17:23.9 - 17:26.0	Okay, erm...	
49	17:26.0 - 17:30.5	So it's like image processing, kinda stuff. This other one is just an image, like the product.	SP
50	17:30.5 - 17:37.2	So you mean if there is one word that is not as... they could... is not as related as here, or could be related to another...	
51	17:37.2 - 17:47.1	No, no, I was just wondering how you placed them. So if you placed them a little farther away, did you think they are a little bit less similar to the group, or that didn't come up in your head?	SP

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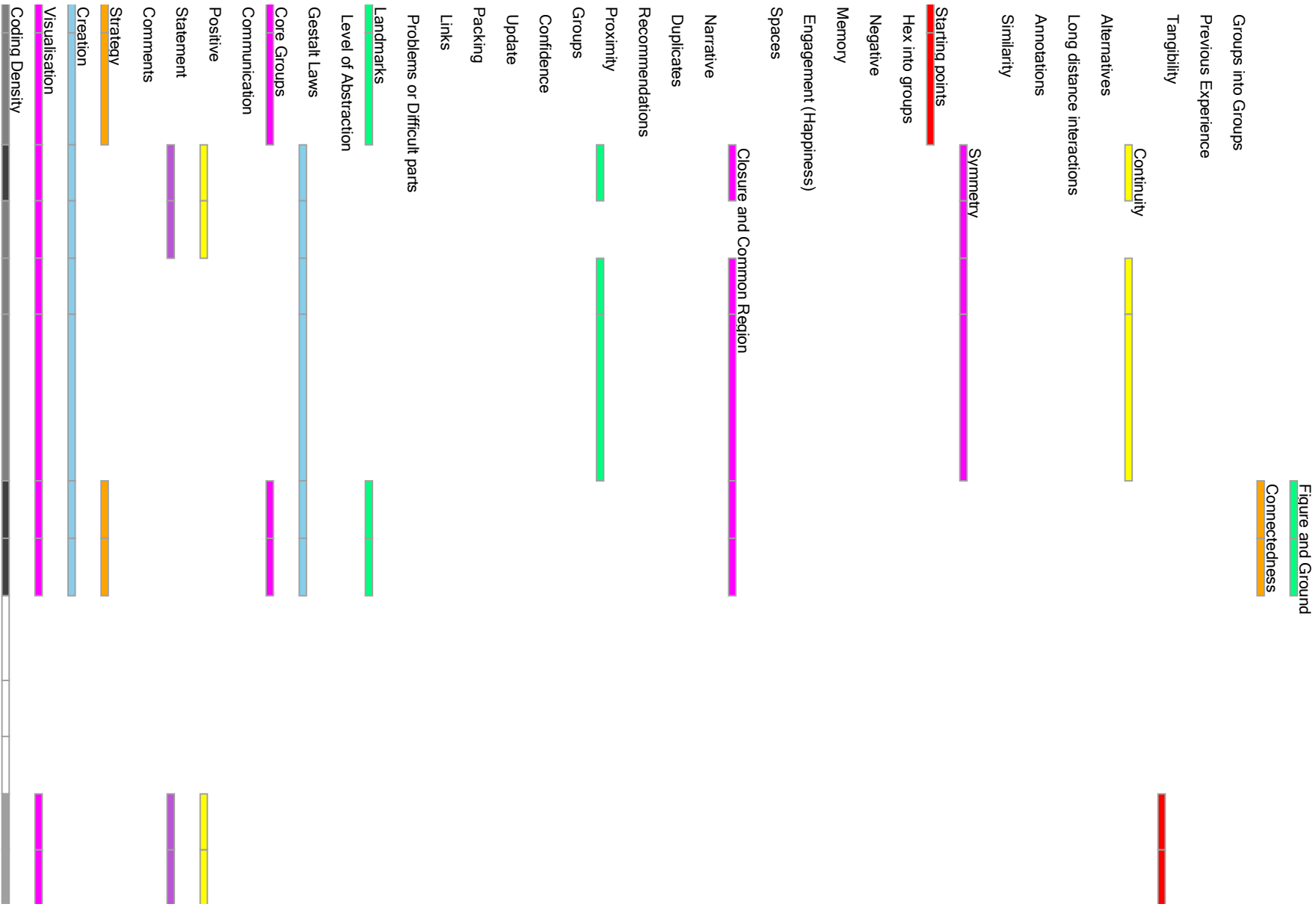
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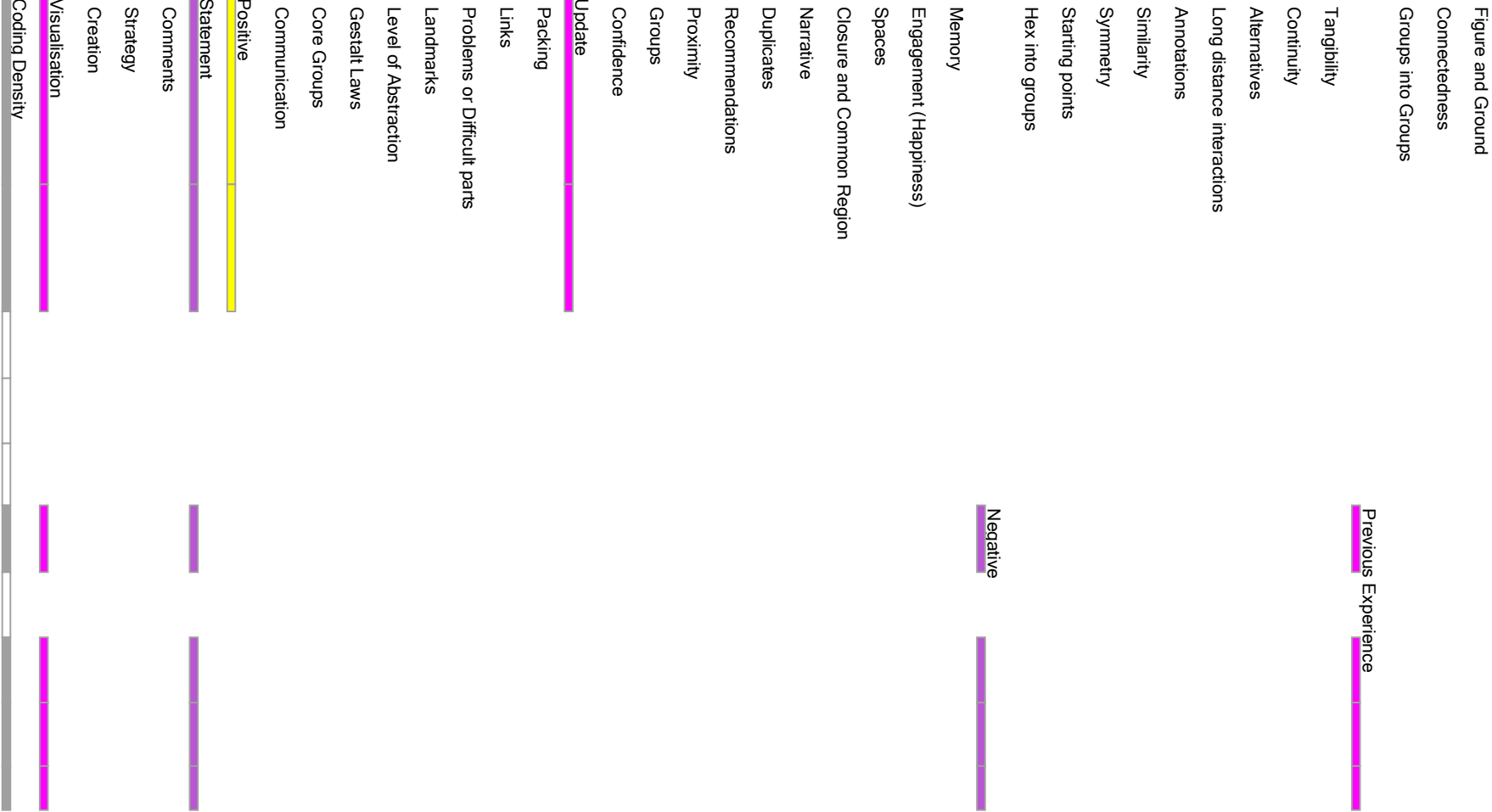
52	17:47.1 - 18:07.9	No, no, I didn't think about that. Because I was just struggling a little bit to make one stand out and the rest of them orbiting around it, that was my first, my first thing. And then when I put the rest of them it was like a little bit of 'as I could' to do the patterns. So, no I didn't think about it	
53	18:07.9 - 18:17.4	Yeah. What about the spaces between them. I mean did you have more space meaning that it was a little bit more distant, or that it was a little bit less related?	SP
54	18:17.4 - 18:47.7	No, I didn't think about relations in that sense. I see that here there is less spaces than here. I think spaces are very, very, very important because it allows you to structure what you are seeing in your head. So... it's not, it's not that they are less related, but on the otherhand it is, yeah, because these ones are more related to, for example, 'art' is more related to 'public' and 'public' to 'social' than 'species' to 'climate'. In some way...	
55	18:47.7 - 18:49.5	Okay... right.	SP
56	18:49.5 - 19:02.7	But there is less the space here. Erm... all right, I didn't think about the space, although I think space is important to convey, you know, the structure of your poster, of your overview.	
57	19:02.7 - 19:22.6	Did you felt like you need to do... make it really smooth and continuous... and... erm... just have some flow in the whole overview? Or was it just a matter of like, erm, putting the groups...	SP
58	19:22.6 - 19:45.6	I don't know if I did it very well. But, to me, the flow would come from the center. And then would have arbitrary spaces. For example, perhaps I would... perhaps I would do more space here... these ones were more in the middle and these more a little bit apart. You know, to convey the idea that this one, 'art' is in the middle between physics and universe and people.	
59	19:45.6 - 19:48.6	Are you also trying to make it a little bit more symmetrical?	SP
60	19:48.6 - 20:04.4	Yeah, kinda of, yeah. But, for example, like here I would do one group. This one space here, and another space here. And here would be two smaller spaces here. Yeah.	
61	20:04.4 - 20:13.2	Yeah, erm. What about the groups, themselves? You said that you wanted to do, like, kinda like circles?	SP
62	20:13.2 - 20:55.4	Yes, so that you could see all the words if you are interested. For example, say that I'm more like, my father is a physicist, where I'm a biologist. So my father studies biology, or my... friend, or my uncle. So you say 'oh, the part of the poster, you read the main words'. So, the part of the poster you are interesting in the most. 'Oh virus, oh!' So then, I... once I'm fixed in this portion of overview, then I... look at the rest of them. But, yes. But, yeah. So the idea is... to make this one, the first one as noticable as possible, but also the other ones are also...	



		readable. If you have interest in that particular field.	
63	20:55.4 - 21:04.7	So you are thinking something like... if you have... like a foreground and a background, or two levels, where you have like...	SP
64	21:04.7 - 21:11.4	Yes, yeah kind of. Or the idea would be like, the other words are more like orbiting, or yeah, in the background, yeah with respect to this one.	
65	21:11.4 - 21:28.5	Mmm. Okay, let me... just a few more questions. What did you thought about the, erm, the actual experiement on cards. Say for example that I had the same kind of like task, but in an iPad, do you think that would help, or...?	SP
66	21:28.5 - 21:32.7	You mean, err... doing the same thing, but in a tablet?	
67	21:32.7 - 21:45.4	In a tablet, yes. In an iPad or something like in a tablet, where it's just a screen, or, do you think it's much better to have the cards and fill them?	SP
68	21:45.4 - 21:51.5	I think I prefer to touch the cards and do, yeah. I think I prefer that.	
69	21:51.5 - 21:53.0	Is it because they're...	SP
70	21:53.0 - 22:22.6	It is because it is tangible and... and because we normally do everything with computers, so I enjoyed the factor around touching something and I'm just moving something around like in the old days. [Laughter] But that's very personal reason, you know, it's not... perhaps it's not more practical. Because if you want to change one word I suppose it's easier to it in the program in the iPad. But no, here, it's just paper in this case.	
71	22:22.6 - 22:39.4	I was just wondering about, say for example if you leave, say you leave the room and... erm... some hours pass, do you think you could be able to explain to someone else... erm... the research for this organisation?	SP
72	22:39.4 - 23:24.6	Yeah, absolutely. I would say... this organisation puts people in the forefront, there are six key pillars. Ones related to energy, ones related to health, community, policy, and cultural, and... and... then from there I would explain, well the cultural... Perhaps this one is not good. Here. Because people have prejudices against... not like, they have their own fixed ideas about cultural, what's it mean. They will perhaps relate more to art than to universe. Even though in my opinion they are... very close, you know, as a cultural concept because science is cultural, is culture anyway.	
73	23:24.6 - 23:41.3	But... so, yeah, perhaps I would change this word, somehow... I don't know. I would put it here, and I could choose another of these words and put it here so that the person is more orientated to.. because there are more	



		words about physics that about culture, so perhaps I would change that now I see it.	
74	23:41.3 - 23:51.5	But yeah, I would go from here and then I would explain the six pillars and then from the six pillars I would then just say, you know... talk about each field.	
75	23:51.5 - 24:16.7	Okay. Got it. Erm. Say, for example, I said to you, 'oh I forgot to give you a few of them' [Laughter]. You don't need to actually place these one, but... how would update the overview, or change the... the chart... sorry... the whole overview	SP
76	24:16.7 - 24:45.6	Well, in this case, it would be easier. Because I would say... right, 'history'... 'history' is, I would say... it has to do with 'war' and 'religion' and 'societies'. So I would put it here and then I would decide whether it replaces the first one or whether it belongs to the group. In this case I think 'social' is the thing that groups them all the best. so I put 'history' next to it.	
77	24:45.6 - 25:08.8	'Measurement' has to do with... you know, physics and engineering and networks and things like that, so perhaps I will put it here, or here... with 'quantum' because measurement of these small things. So like, this is very easy to add one. Because 'water' has to do with 'climate' and 'energy' and all these things like 'arctic' and 'ice'.	
78	25:08.8 - 25:46.0	And finally, 'earth' that's a very good one, because 'earth' to me could perhaps replace... it's a very important word. So, perhaps it could be a second link here... earth... could be... we could be, even replacing 'energy', say things that, things are related to 'earth' and 'energy' part of... and perhaps now I would do another group with 'energy' and leave 'ice', 'arctic'. I would split the group now.	
79	25:46.0 - 26:35.2	Because I would take 'carbon' and 'fuel'. And... and I would put the 'ice', no the 'arctic' or the 'ocean' as a link between them. 'Aerosol' obviously comes here 'cause of the clouds[??] and all that information. And then... 'ice', 'water', and all these things and 'sediments'. 'Water' would come first, I think, or 'earthquake'. 'cause it costs a lot of lives and is mediatic. It's quite important. Kind of would be... or perhaps 'water' is a little more important. So yeah, sorry. I would just, you know, 'water' and all of them... kind of orbiting with 'earthquake' there and this one linking both of them.	
80	26:35.2 - 27:18.3	But 'earth' would go towards this group. And yeah this one I would change definitely. I would change it for... for 'universe'. 'Culture' I would put it here. I would leave, ah, 'nuclear' is related to... ah, see, now I think that one is related to 'energy' more than physics. I was thinking about physics. 'Laser' I would put it perhaps here, between the two. And as a more important one I would put 'star', because it's... err...	
81	27:18.3 - 27:39.2	Okay, that's... that's good. Just one more question... is... I was just wondering how experienced are you with visualisations and... like 2d graphics/ 3d graphics. Do you work with them, like... normally, or, everyday?	SP



82	27:39.2 - 27:53.8	No... for example, I... I don't know, I design a little icon for a website. That's the kind of thing you are thinking of?	
83	27:53.8 - 28:00.7	Yes, like do you work every day with charts, or do you work with every day with 3d graphics	SP
84	28:00.7 - 28:17.1	No, I'm doing... maximum plotting functions and things when I do my simulations, or... just to see how... you know, when I have a space matrix to see where the non-zeroes are, but not very graphical expression	
85	28:17.1 - 28:26.0	What about layouts and things like that? Like laying out website, or have you laid out a book, or a leaflet, or something like that, do you have any experience of that?	SP
86	28:26.0 - 28:41.7	Well, a leaflet, I did it when I did the masters. I did kind of a leaflet for children. To explain climate, no... food security for children who are 15 or something like that, was the project	
87	28:41.7 - 28:45.3	But it's not something you do every day?	SP
88	28:45.3 - 28:50.1	No, no, no, no.	

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Proximity
Groups
Confidence
Update
Packing
Links
Problems or Difficult parts
Landmarks
Level of Abstraction
Gestalt Laws
Core Groups
Communication
Positive
Statement
Comments
Strategy
Creation
Visualisation
Coding Density