Giraffe and Snake are moving through trees and grass at the side of a large lake. The sun is setting and an orange-pink sky is reflected in the still water. Giraffe gazes out from the shore for a moment and then walks towards a tree with high branches full of dark green leaves. A zebra stands silently nearby. Snake rapidly slithers through the grass. Unseen, a flea crawls up the leg of the zebra and an eagle circles high above. Mother Nature, the creator of this tranquil scene, quickly considers her options as she sees the paths of Giraffe and Snake about to cross. Suddenly there are voices:

1. Snake: HEY! HEY! Watch where you're walking Mr. G! You just about stepped on me. And considering the possible outcome of that, I really wish you would be more careful.

2. Giraffe: Well, it's hard to see way down there in the grass you know. Isn't it your job to watch where you slither? It's too bad you don't have some legs so folks could make you out a bit better.

3. Snake: I get along quite well just as I am, thank you. In fact, I feel much more comfortable on the ground where I can see where I'm going, unlike some other folks who have their heads up in the tops of trees. And I do notice you have a hard time getting a drink, isn't that so?

4. Giraffe: I think, Mr. S, if you were colored a bit differently, maybe you'd be better off. I mean that pattern on your skin looks just like the grass you slither through.

5. Snake: My skin is just the way I like it. Speaking of patterns Mr. G, look at your own hide. Now there's a strange pattern if I ever saw one. You're almost as garish as Mr. Zebra over there.

6. Giraffe: [softly] Please, you're being very impolite. He'll hear you.

7. Zebra: Did someone over here call me garish? Who said that?

8. Snake: I didn't mean to be rude. Mr. G and I were just talking about patterns and I just wanted to point out that all three of us have them. The pattern on my skin helps me when I'm hunting for mice. How does your pattern help you Mr. G?

9. Giraffe: I'm not quite sure. Certainly not like yours helps you. Maybe mice can't see you, but you certainly take a chance of getting squashed now and then because you blend in so well with the grass. And you Mr. Z? I can't imagine how your pattern helps you much, unless you're escaping with a band of convicts (both Giraffe and Snake snicker.)

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A Fantasy in Five Parts

10. Zebra: My, my, you fellows are most unpleasant today. I've really never thought much about my stripes. All of us zebras have them. I think we'd all be rather suspicious of a zebra that didn't. We might not want him in the herd. My father's stripes are almost identical to mine.

11. Snake: I feel the same way about my own grassy pattern. Mr. Z. My family all have the same kind. I'd say it was how we were designed, so to speak, just like Mr. Z and his kin were designed with stripes. So a pattern might be a design.

12. Giraffe: A design? That's it?

13. Zebra: Are you sure about that Mr. S? It sounds reasonable, but how do you know for sure?

14. Snake: My ancestors used to hang out in the tree of knowledge you know. You might have heard a rumor about that Garden of Eden thing? The apple story?

15. Giraffe: I do recall that, yes. The rumor is you lost your legs because of that apple. But can we get back to the word "pattern"? Is it really just a design?

16. Zebra: I think there's more to it than that.

17. Snake: Perhaps you're right. If it were just a design I suppose we wouldn't need the word "pattern."

18. Giraffe: Of course, because there are patterns that we really wouldn't call designs.

19. Zebra: There are? Give me an example.

20. Snake: Look at the tree Mr. G was munching on a moment ago. The branches all angle out in the same way, and the lengths of each of them get smaller and smaller as they go up and out. And all the trees are like that. They branch over and over again in the same way. That's a pattern isn't it? A pattern of branching.


22. Zebra: Well if you're going to call that a pattern then so is the track Mr. S made in the mud near the shore. It's kind of a squiggle.

23. Snake: It's interesting that you should say that Mr. Z, because yesterday an eagle told me how the river looked just like I do, and like the tracks I make in the mud. The similarity struck her suddenly while she was flying quite high above. So my path and the river's path are similar. They both have a squiggle pattern. But it's hard to see the river that way, unless you're an eagle.

24. Giraffe: Now that you mention it, I think lots of flowing things make that kind of squiggle pattern — snakes, rivers, vines, etc. But we haven't really answered the question. Why do we call all these things patterns?

25. Zebra: I think the key to it is repetition. They all repeat over and over again — the branches, skin and hide markings, and squiggles.

26. Snake: That's true. But if patterns are just repetitions of things, then what about repetitions which aren't really things. For example, that bird up there in the tree has been driving me crazy chirping those same five notes over and over again for the last hour.

27. Giraffe: Of course. It's a pattern of sound.


29. Snake: Of course. I should have seen that. You can even see the pattern in the notes the bird is singing.
30. Giraffe: I have to admit, it does seem you’re right. The notes are in a pattern, just like the marks on my hide. Repetition does seem to be the key. Even the rising and setting sun is a pattern. And therefore night and day must be too.

31. Zebra: Actually, Mr. G, that’s because the earth is rotating on its axis, but I suppose that’s a repetitious event as well, and also a pattern.

32. Snake: It seems that patterns are everywhere. Any kind of sequence repeated two or three times, something we see or hear, or even a repeating movement like in a dance or my slithering, allows us to perceive a pattern. And then that becomes a theme for us. We like it because we find it familiar. Why, it’s even happening while we talk to each other! If you look at the order in which Mr. G and I were speaking before Mr. Z joined in the conversation you’ll see a pattern. Let’s call it pattern A. And let’s put our statement numbers in parentheses after each initial so we can see it more easily.

Pattern A:

S(1) G(2) S(3) G(4) S(5) G(6)

33. Giraffe: Why, good heaven’s, you’re right Mr. S. I do see it! We were alternately talking, one after the other. Of course when two folks are talking it’s kind of hard to imagine any other pattern. But when Mr. Z joined in the pattern could have gotten more complex, depending on who decided to talk and when. The pattern of conversation after Mr. Z joined in is very sociable, isn’t it? We all politely take turns, one after another, to make a new pattern. Let’s call it pattern B:

Pattern B:


34. Zebra: Yes, I see it. It’s a repeating sequence of “ZSC.” And I also see that if pattern B is to continue, I’m the one who has to be speaking now in this contribution No. 34.

35. Snake: Good grief, you’re right. Now it’s my turn in No. 35. It seems we don’t have a choice anymore if we’re going to keep the pattern going. We’re stuck in it. How awful! It’s like we don’t have free will anymore!

36. Giraffe: I think that’s what Mother Nature intended. But why should she want to keep it going?

37. Snake: WAIT... I CAN say something now if I want. And I do! Even if it is Mr. Z’s turn I’m jumping in and taking his place.

38. Giraffe: How could you Mr. S?! It was Mr. Z’s turn. You’ve destroyed the pattern. Why in heaven’s name did you do that? Mother Nature will be furious.

39. Snake: Of course she won’t. She’s the one who did it — to make another point I think. Mr. Z didn’t have to speak. And to prove it, I spoke instead. And a pattern is still continuing! It’s how Mother Nature works!

40. Giraffe: No you’re quite wrong. You’ve ruined it. You’ve destroyed the repeating “ZSC” sequence.

41. Snake: Not really. Not in the long run I haven’t. Don’t you see it?

42. Giraffe: I see it! I see it! Because we are now just finishing up a second run of the pattern in the
conversation before Mr. Z joined in. I think we’re making a pattern of the A and B patterns “SG” and “ZSG.” Or rather, Mother Nature is. The pattern of patterns is:

\[ \text{ABA} \]

43. Zebra: Indeed we are Mr. G. And I saw it just in the nick of time because now that you’re done speaking it’s my turn to get back in so we can continue the pattern of patterns. We’re now just beginning the second “B” segment of the repeating sequence ABAB.

44. Snake: Precisely Mr. G. Whew! This is very tricky business. Let’s hope we don’t lose the reader. And we’ll have to remember to repeat the “A” sequence after a while to continue the pattern of patterns. And it’ll have to be at exactly the correct time too. We’re going to have to start counting our contributions very carefully.

45. Giraffe: Wait just a minute here. I think we’re talking ourselves into a jam. We can repeat the pattern of patterns A and B over and over again, but how do we know there isn’t an even bigger pattern which will kick in sometime in the future?

46. Zebra: That’s right Mr. S, you might slither away for a bit, and then there would be a different pattern in the conversation between me and Mr. G which might look like this: GZGZGZ, etc. And we could call that “GZ” repeating sequence X. Then you might slither back and start talking with us again so that the pattern of patterns might become a new and bigger one like the following:

\[ \text{ABAB X ABAB X ABAB X ABAB X} \]

47. Snake: Of course, of course. You’re right. We could be just at the beginning of a very big and even more complicated pattern which we don’t know about yet. It’s similar to being too close to Mr. Z to see all of him clearly. For example, if I were a flea crawling through one of his white stripes, I wouldn’t see his pattern at all. All I’d see is a jungle of white hair growing from his hide. The pattern on his whole body wouldn’t be apparent yet. I wouldn’t see it until I had walked for a long time through regions of white hairs and dark hairs. And even then I might miss it, just like we don’t see the squiggle pattern of the river when we’re too close to it. The patterns that appear around us depend on how we’re able to see things.

48. Giraffe: That’s true. If you were a very small and old flea going very slowly, or up a single stripe, you wouldn’t even know Mr. Z was a striped animal at all.

49. Zebra: All right, all right. Enough about fleas. You’re making me itch! I think I’m bug free, you know. Though to be honest, I guess I can’t be sure.

50. Snake: I was just making a point Mr. Z. Don’t be offended. We needed an example like the flea to illustrate our thoughts. The flea provides a different viewpoint, just like the eagle has a different viewpoint. Being inside the hairs on your hide is like being in the middle of this conversation we’re having. It’s hard to see the big conversational picture, like it’s hard for the flea to see your stripes.

51. Giraffe: All this is fine, but it still seems to me that wherever you are in relation to perceiving any pattern, there will always be others if you back off further, go down deeper, or wait longer.

52. Zebra: Yes, that’s true Mr. G. It certainly seems complicated, doesn’t it?
53. Snake: Unfortunately it's even more complicated. What new patterns we'll see can never be predicted with absolute certainty either because they either haven't happened yet or we haven't figured out ways of seeing them. For example, maybe we're just at the beginning of a very long conversation which will go on all night. Who knows who will leave first, or whether someone else might come along and join in? We'll never get the really big picture.

54. Giraffe: Of course. We can't look forward into time, just like we can't look deeper into the world like the flea or downward upon the world like the eagle. The flea sees patterns we can't — patterns buried inside patterns. We can't see them because we can't or don't wish to look closely enough. That's true even for this conversation as well.

55. Zebra: Now you've really lost me Mr. G. The patterns on your hide and in this conversation are quite obvious, aside from the possibility of a more complex pattern developing.

56. Snake: Not so Mr. Z. I think I see what Mr. G means. Let's return to the hypothetical flea walking over your hide through one of your white stripes.

57. Giraffe: Thanks Mr. S. You see Mr. Z, the white hairs in your hide grow out in a very regular way. The flea sees this better than we.

58. Zebra: I think I understand now. The hairs are all just about the same distance from each other. The flea sees them in a very distinct pattern!

59. Snake: It doesn't stop there either. If you were a germ on a hair and had eyes to see, all sorts of new patterns would emerge.

60. Giraffe: It probably doesn't stop there either. If I were a virus sitting on a germ there would be a whole new world to see.

61. Zebra: But you've lost the analogy to the pattern of our conversation. It's obvious you can't look inside a conversation to find another pattern.

62. Snake: Don't be so sure Mr. Z. Just look back at our contributions since you said "Now you've really lost me Mr. G."

63. Giraffe: I see it! I see it! The contributions are getting smaller and smaller. Mr. Z's contribution in statement 55 was exactly 29 words long.

   Statement No.  55 56 57 58 59 60 61 62 63
   Words in statement: 29 28 27 26 25 24 23 22 21

64. Zebra: And then Mr. S spoke and said only 28 words about the flea walking over me in statement No. 56.

65. Snake: The inside pattern, since Mr. Z said he was lost, is that each additional contribution shrinks by one word.

66. Giraffe: The one I am speaking now must be 18. I'll bet that the reader can see it now.

67. Zebra: Of course. In fact, he's confirming it by counting the words to check out that it's so.

68. Snake: But can Mother Nature pull this off? I mean with fewer and fewer words to use....

69. Giraffe: That's why I had to interrupt you Mr. S. She's finding it harder and harder.

70. Zebra: She could just not worry about it and make the pattern of patterns bigger.
71. Snake: But as a writer she knows she'd lose the reader if she tried it.

72. Giraffe: Yes, I think she's pushed this about as far as she can.

73. Snake: She'll never make it. There aren't enough words for a conversation.

74. Giraffe: We could stop at the end of this A segment.

75. Snake: I think that's why Mr. Z is so silent.

76. Giraffe: Indeed! Of course! Why thank you Mr. Z.

77. Snake: He's smiling silently. Zebra's a wise fellow.

78. Giraffe: So long now. See you tomorrow.

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1  2  3  4  5
A  B  A  B  A

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The tired threesome nod silently to each other in the darkening twilight. Giraffe again looks out over the water and then up, to catch a glimpse of the vanishing eagle. Zebra joins his herd now hidden among the trees, swishing his tail at fleas he imagines are crawling up his back. Snake slithers silently away through the grass in a direction directly opposite to that of Giraffe. The only sounds are a repeating five note melody of a wire-tailed swallow and the splash of a fish breaking the surface of the lake. Rings of water spread out from the splash in the darkness.