Seeds of creation and disaster
We all have our failures. Mine include attempts to give a lecture on creativity. The worst was at an otherwise delightful conference in Germany, when I had nothing worth saying and said that badly. Invited recently to a conference on creativity in Australia (an ideal chance to visit an unknown country) I had to turn it down, for fear of another lack of creativity. So, it is time to jump on the bull, to risk being gored and my readers, if any, bored—by asking what are effective seeds for new perceptions. Perceptions cannot always be right. So we may expect to find seeds of both creation and disaster.

Seeds of creation
Let’s ask: What is special of patterns or pictures that evoke rich varieties of perceptions? This must be a central question for art, and the teaching of art.

Ink blots come to mind. Following Hermann Rorschach, there is a vast literature on the variety of responses to ink blots related to normal and abnormal individual differences. But suppose, instead of comparing many people with a few ink blot patterns, we changed this around to look at different patterns with the same individuals. This should tell us which kinds of patterns can evoke creativity.

The Swiss psychiatrist Hermann Rorschach (1884–1922) was born in Zurich, studied in Germany and Russia, and then worked mainly in Switzerland. Making ink blots was a children’s game he would have known. It is called Klecksographie and it is interesting that Hermann Rorschach was called ‘‘Klex’’ as a child (Leichtman 1996, page 10). He died before he was 40, at the point of recognition, from appendicitis complicated by peritonitis. His only major published work was “Psychodiagnostics: a diagnostic test based on perception”. Whatever the clinical or diagnostic merits, which are certainly outside my competence to assess, surely there is much of general interest for perception in the method and results of Rorschach’s psychodiagnostics.

He tells us that each ‘experiment’ lasted for 20–30 minutes, without a specific time limit, some twenty answers being typical. Some ink blots were more effective than others (page 15):

“The production of such accidental forms is very simple: a few large blots are thrown on a piece of paper, the paper folded, and the ink spread between the two halves of the sheet. Not all figures so obtained can be used, for those used must fulfil certain conditions. In the first place, the forms must be relatively simple; complicated pictures make the acquisitions of the factors of the experiment too difficult. Furthermore, the distribution of the blots on the plate must fulfil certain requirements of composition or they will not be suggestive, with the result that many subjects will reject them as ‘simply an ink-blot’ without consideration of other possible interpretations.”

For diagnoses, Rorschach says that every figure in the series has to fulfil special requirements, and each must be thoroughly tried out before it can be used. Symmetrical figures were preferred for “asymmetrical figures are rejected by many subjects; symmetry supplies part of the necessary artistic composition.” This is expanded and qualified:

“It has a disadvantage in that it tends to make answers somewhat stereotyped. On the other hand, symmetry makes the conditions the same for right- and left-handed subjects; furthermore, it facilitates interpretation in certain inhibited and blocked subjects. Finally, symmetry makes possible the interpretation of whole scenes.”
Characteristics of the standard set of plates (which are not reproduced in this book, though are available in a separate supplement) are discussed (page 52). It is stated that some of the plates evoke responses to details, others to the whole pattern. Colours evoke kinaesthetic movement responses. Some blots are ‘harder’ than others, and for some ‘whole’ answers are almost impossible. These general comments seem to suggest seeds of creativity that we seek; though more controlled experiments, with a larger variety of patterns, would be needed to develop this ‘reversed Rorschach’ to find which kinds of patterns evoke rich varieties of perceptions.

Would the findings reflect perceptual, or conceptual creativity? What in any case is this difference? Just how perceptions relate to conceptions is a deep, controversial issue. Surprisingly, Rorschach rejects imagination as an important individual variable (page 22):

“Most interpretations are determined by the form of the blot alone, both in normal and abnormal subjects. The subject searches among his visual memories for that one which in form, especially in outline, most closely resembles the entire figure or one of its details. In accomplishing this, he does not visualize the object ‘seen’ as moving, but as a fixed form.”

The fixed form-answers are called F, the movement-answers M, and those for colour C. Computations are made from proportions of these and other responses, but general psychological assessments are also taken into account: so the ink blot results are seen as important though not in themselves adequate for diagnosis. The frequency and proportions of the responses are seen as important both for assessing normals and for diagnosing illnesses; but most important are reported forms. Forms were seen most clearly by pedants and depressives:

“Lack of acuity in the perception of objects goes with freedom from a sense of effort in the test. The most commonly seen forms are of animals (25 to 50%), while high imagination is indicated by more non-animal forms. Imbeciles see parts of bodies: fingers, hands, feet, eyes everywhere.”

Curiously, the smaller the number of animal answers the smaller the factor of movement, though this may mean that once an animal is selected no other form is substituted. It is as though animals are default objects. More intelligent normals, and schizophrenics, interpret whole figures as human forms; but almost no parts are seen by unintelligent normals or by mild depressives or anxious or pedantic subjects. Seeing oneself is mainly by schizophrenics; though this—Rorschach says—requires further study.

There are several hints here for reversing the Rorschach test, from studying individual people to studying general effects of ink blots. For some ink blots work altogether better than others, and some are claimed to probe certain characteristics better than others. Surely this has immediate implications for artists—especially for ‘minimalist’ painters. What, though, for the painters themselves? Do their partially completed paintings change before their eyes? Do spontaneous changes suggest the next move of the brush?

There may be similar principles for music. I am taken back to an embarrassingly early joint paper of over forty years ago, on spontaneous changes of sounds and meanings in repeated words: ‘verbal alternation’, as we called it.¹

What of visual presentations of words or phrases? The refrigerator in my kitchen sports ‘magnetic poetry’. This has words or phrases as units which can be moved around. These are far more evocative than individual letters. Perhaps much the same applies to concepts for teaching science. Too ‘atomic’ facts will not suggest connections or concepts.

¹Warren and Gregory (1958) on repeated words on a tape loop, spontaneously changing sound and meaning, as also musical rhythms and phrases. This experiment was Dick Warren’s idea. I happened to have a tape recorder, when they were rare treasures. Warren has gone on to develop this first account of ‘verbal alternation’, with elegant experiments and discussions on their relation to visual ambiguities, such as the Necker cube.
Some ink blots to try out
Too ‘molecular’ will inhibit freedom of thought and originality. It seems that there is an optimal degree of structure for effective seeds of creativity. This is like starting with optimal molecules, rather than atoms; though one may ask where the molecules come from, and how they were created. This is a mental chemistry of creation that should be developed by experiments and theories of perception.

**Seeds of disaster**

Perceptual changes of ink blots have no material consequence, and one perception is as valid or as invalid as another. But what of perceptions of objects and events? A ‘wrong’ perception of an object or a scene may lead to disaster. We know that it is not only shapes and patterns such as ink blots that change perceptually. There are the umpteen ‘ambiguous figures’ and objects, where some perceptions are right but others sometimes dangerously misleading. The alternative perceptions may be clear-cut switched alternatives, as in the well-known ambiguous figures; or they may be complex graded and shifting, taking off from the stimulus patterns as in minimalist art and ink blots. We should expect this especially for scenes somewhat similar to ink blots—complex outlines with details at various scales—when looked at continuously for several minutes. Indeed, continuous staring at any scene is ‘unnatural’ and can have unpredictable consequences, as indeed employed by scryers from ancient times, to look into the next world rather than ours (see Gregory 1997, page 65).

Isn’t this the perceptual situation for train drivers? It is reported that in England about two trains a day pass a red light. The result can, of course, be disastrous—as for the recent Paddington crash. The driver is staring ahead for long periods at slowly changing, quite symmetrical unfolding scenes. Perhaps slowly changing ink blots are even more powerful than static patterns for decoupling perception from reality. If, indeed, perceptions are at best loosely controlled hallucinations, it is not surprising that the power of perception to invent internal worlds can kill and maim when we are confronted by mismatched reality.

Relations between our individual internal worlds and the external shared world are vitally important—for art, for science, and for survival. Perhaps ink blots will show the way to fuller understanding of this danger lurking in our intelligent fanciful eyes.

Richard L Gregory

**References**

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(2) Actually ‘ambiguous’ is itself ambiguous. It can mean spontaneous changes as for the Necker cube or duck–rabbit; or inability to see differences, as for red + green mixture of lights and monochromatic yellow, which, though physically different, cannot be distinguished by the eyes. It is the first, dynamic ambiguity, that concerns us here.