

TEST YOUR THINKING WITH THESE QUESTIONS

Ask yourself these questions to find out whether you could qualify as a person with a scientific attitude.

1. Does your fish ever grow between the time you catch it and your telling of the catch?
2. If you meet a neighbor out with a pretty girl, do you immediately assume that he is in love with her?
3. Do you often "stick to your guns" because you hate to admit you may be wrong even though you know you are?
4. Do you believe that if the groundhog sees his shadow, six weeks of winter will ensue?
5. In checking over the bills sent you, do you notice errors at your expense more readily than those in your favor?
6. After you have made a decision, do you ever wonder whether you are right?
7. Do you seek advice from experienced persons when you are making a decision?
8. Are you inclined to check what is told you against the known facts?
9. Can you always be convinced of the truth even when it is something contrary to your interests?
10. Did you ever vote for a man just because you liked his voice?
11. Do you ever buy goods just because you like the personality of the salesman?
12. Are you careful to avoid overstatements even when they add to the story?

A negative answer to all questions except numbers 6, 7, 8, 9, and 12 will mark you as a most unusual person—or else will show that you are not honest with yourself.

made many times on the principle of upholding the good old traditions at any cost. Often reports of survey commissions that included in their membership the best minds available have been discarded because they did not agree with the convictions of their sponsors."

Haven't you had your own troubles in combatting this lack in your associates of freedom in revision of judgment?

Very closely related to open-mindedness is the habit of suspended judg-

ment. The first, Dr. Noll explains, is a willingness to consider all the facts, including new ones as they arise. Suspended judgment means a waiting and searching for such facts before a decision is made.

Don't jump at conclusions, don't make snap judgments, is the rule for those who would develop this fourth scientific habit of thought. Children jump at conclusions and so do many grown-ups who still preserve child-like habits of thought. You needn't be slow, but be cautious in forming any conclusions.

The fifth habit of scientific thought is a much more difficult one to develop—the habit of looking for true cause and effect relationships.

Just because two things occur together they need not be causally related. If you have a quarrel with your neighbor, are you willing to believe it is because you spilled salt at the breakfast table? If a business project succeeds, do you conclude that the success was due to the fact that you began it on a Friday? If the horse you bet on wins, do you think it is because the animal's name is "lucky for you?"

Scientists do not escape from lapses so far as this habit is concerned. Where they find that two conditions commonly occur together, even thoughtful persons are likely to assume a cause and effect relationship although evidence for such a relationship is lacking. Sunspots have thus been blamed as a cause for wars as well as weather. And wars in their turn have been held responsible for changes in the ratio of male births to female. And such major events as the depression have been considered the cause of all ills descending upon mortals at or near the same time.

Not Cause and Effect

Obviously the relationship might be of another kind than that of cause and effect. If thunderstorms are frequent disrupters of Fourth-of-July festivities it need not be that the explosion of firecrackers produces rain. It could well be that both showers and celebrations are likely to occur in July.

The final habit in Dr. Noll's list is that of criticism. By that he doesn't mean fault-finding or a destructive attitude, although even this fault is of greater assistance to the promotion of science than is a blind acceptance of all that is heard or seen in print.

No, what he means is the ability to "see the nigger in the woodpile," to

weigh arguments and to detect fallacies.

These six habits do not by any means exhaust all the virtues that might be listed as contributing to the true scientific attitude. But if you have them all, you may consider yourself pretty well off. Dr. Noll says:

"There may be other habits that contribute to the scientific attitude. Other habits might be mentioned and defended as elements in it. Nevertheless, it may be said in defense of those listed that an individual who is habitually accurate, who correctly interprets cause and effect relationships, who is open-minded, who does not jump at conclusions, who is intellectually honest, and finally, who is critical—would be possessed not only of the scientific attitude but also of a certain degree of uniqueness."

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OCEANOGRAPHY

Unexplored Coastal Waters To Be Studied

SECRETS of the sea in the little-known offshore area between Lower California and Costa Rica are to be sought soon by scientists of the Scripps Institution of Oceanography at La Jolla. A great triangular stretch of ocean is at present, for scientific purposes at least, a "no-man's water," because it is little traversed by commercial vessels which might take incidental oceanographic data, and no well-equipped expedition has ever visited it.

For the expedition which will fill in this gap in the scientific map of the Pacific, the Scripps Institution is using recently received gifts from Robert P. Scripps and from the estate of the late Ellen Browning Scripps, together with an appropriation from its own funds, to refit its boat, the *Scripps*. Although only a 64-footer, this boat will be able, when reconditioned, to work several hundred miles out at sea and at any depth to 3,000 meters, thus making it possible for the Scripps Institution to add much to the knowledge of a rather large section of the Pacific about which little or nothing is known.

In altering the vessel, orders have been placed for a Diesel engine to replace the present gasoline engine, for a new winch for deep-sea work.

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