



CONTROVERSIAL PICTURE IN MELLON ART

Famous people of Leonardo da Vinci's day, and Leonardo himself, were models for this painting, and portraits are actually identified by names or monograms, claims Prof. Paulson, arguing that "The Adoration of the Kings" is a lost da Vinci masterpiece. Among ten celebrities thus said to be immortalized are Emperor Maximilian (foremost kneeling figure, left); Charles the Eighth of France (standing, crowned, beside Maximilian); Leonardo (third from front in right group, standing with folded arms).

North Carolina State College, put forth a year ago.

If his contention wins acceptance, it means that the painting may be prized even more highly than it is now.

Prof. Paulson, who studies famous paintings of uncertain authorship for signatures and inscriptions, detected a number of portraits and names, including that of Leonardo, on the picture of the kings offering their gifts.

That da Vinci's name was added later is the tentative verdict of Prof. Frank J. Mather, Jr., professor emeritus of art and archaeology of Princeton University, one of the critics consulted by Prof. Paulson.

Prof. Mather said:

"I believe inscriptions discovered by Paulson are there, but not of the period of the picture and of no significance for the problem of authorship. I think the inscriptions have been added later by some ill-informed and too-hopeful owner."

The painting, once in the Russian royal Hermitage, has been considered a Botticelli for over half a century.

Prof. Paulson has urged that ultraviolet ray photography would show whether or not the signature and other inscriptions are part of the original work or later additions.

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PSYCHIATRY

New Personality Tests Described to Psychiatrists

A NEW test which gives a clue to a man's personality by showing just how he reacts to a baffling situation was described by Dr. Saul Rosenzweig, of Worcester, Mass., State Hospital, at the meeting of the American Orthopsychiatric Association.

The new test may also throw further light on certain mental disorders, since in these conditions patients react in one

of three ways to baffling situations.

Instead of asking questions to find how the patient takes defeat or failure, the psychiatrist using the new test gives the patient a number of problems to solve within a limited time. The problems are chosen so that the majority of them cannot be solved within the time limit.

As a result the patient finds himself

up against the type of situation which psychologists call frustration. How he meets this situation is what the examining psychiatrist wants to know. The new test, Dr. Rosenzweig believes, will give the answer more truly than the old method of asking the patient what he would do under such circumstances.

When a person experiences frustration, Dr. Rosenzweig explained, there are, in addition to the objective way three common subjective ones in which he may react.

"For one thing, he may blame the external world (other people or things), display anger, and await an opportunity for revenge. This sort of reaction may be called 'extrapunitive.'

May Blame Himself

"Again, he may blame himself when frustrated and have feelings of unworthiness, humiliation or guilt. This kind of reaction may be called 'intro-punitive.'

"Finally, there is a sort of subjective reaction to frustration in which the person attacks neither the external world nor himself and is more interested in condoning than in condemning. He attempts to pass off the unhappy occurrence as an accident, something that no one could have helped and that no one was to blame for, even if doing this involves a certain amount of self-deception. This manner of reacting to frustration may be termed 'impunitive.' All three designations are derived from the Latin root meaning to punish; the prefix indicates the attitude toward and the direction of the punitiveness.

"Studies are being made to determine whether individuals follow some one of these types of reaction consistently, at least in a given kind of situation. In the first instance, these types, it will be noted, are intended to apply to particular reactions rather than to total personalities. Whether they can be extended in the latter direction remains to be seen."

Another Trait Measured

Ability to get along in the world is another personality trait that will soon be measured by a scientific test just as intelligence now is.

First steps in the development of such a test were reported to the same meeting by Dr. Edgar A. Doll of the Training School at Vineland, N. J.

The ability of the ordinary man or woman to manage himself and his affairs "with ordinary prudence" is pretty thoroughly tested in daily life. Lack

of this ability is recognized by the layman who calls the unfortunate person a fool, nitwit, dumbbell or some other uncomplimentary name.

Psychiatrists use the same criterion of ability to get along in determining whether a feebleminded or mentally disordered person must be kept in an institution or may be released to live at home without daily supervision.

So far, however, the scientists have had no scientific measuring rod for the improvement in this direction made by a patient at a mental disease hospital or a child in the guidance or behavior clinic.

PHYSICS

New Coldest Cold Reached In Leyden Laboratory

Netherlands Scientists Produce Temperature One Five-Thousandth of a Degree Above Absolute Zero

FROM the world-famous low temperature laboratory of Leyden University in The Netherlands a new low in the "coldest cold" temperature is reported. Prof. W. J. De Haas and his colleagues have reached one five-thousandth of a degree above absolute zero in their experiments.

Absolute zero is 273.15 degrees below zero on the centigrade scale, and 459.6 degrees below zero on the Fahrenheit classification.

But how was the temperature measured? How, for example, can one measure a temperature where all liquids are solid and all gases liquid; where a mercury thermometer is frozen fast in its glass stem and even the hydrogen in a gas thermometer has liquefied to a mere drop of fluid? No thermometer in an ordinary sense can be used.

Prof. De Haas measures his temperatures with a magnetic thermometer. How it works is bound up with his method of attaining the low temperatures.

The Leyden experiments are based on the fact that in chemical salts having random orientation of all their little internal unit magnets, there will be less energy in the sample if it is strongly magnetized in the field of a giant electromagnet.

Using special salts cooled first to the temperature of liquid helium at only 1.6

To fill this lack, Dr. Doll has devised what he calls a "genetic scale of social maturity." It consists of 115 items arranged in order of increasing difficulty and designed to measure social adequacy from infancy through adulthood in terms of responsibility, independence, self-help and self-direction.

Although relatively simple and easily given by experienced physicians, Dr. Doll cautioned against use of the scale by laymen. The information used in scoring, he explained, is obtained not from the subject himself but from informants who know him intimately.

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degrees above absolute zero, Prof. De Haas lowered the energy of his samples by putting them in a field of 30,000 gauss. (Gauss is the unit of magnetism, just as volt is the unit of electrical potential.) The component of the earth's magnetic field which moves compasses, by comparison, is only three-tenths of one gauss.

Then quickly the applied magnetic field on the sample was lowered from 30,000 gauss to but 25 gauss. The theoretical unit magnets of the sample, called magnetons, then went back to their normal random positions.

But they needed energy to swing themselves back. The sole place for obtaining this necessary energy was from the heat of the sample. Thus as the heat energy was used up, the sample became colder and colder.

Shortly, however, the sample began to warm up again to the temperature of the helium bath. Prof. De Haas measured the rate of this warming up process by detecting the magnetization of the sample. He obtained a curve showing how magnetization varied with temperature.

The final step was to prolong the curve backward and in so doing he was able to deduct that the temperature of the lowest point was but one five thousandth of a degree above the real "bottom" of all temperatures.

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MENTAL HYGIENE

Warns Against Brooding Over Past Mistakes

OLDER people were warned against brooding over their mistakes and making too little of their successes, in an address on mental health, happiness and efficiency given by Dr. C. A. Bonner, superintendent of the Danvers State Hospital.

Childhood is the golden age for mental hygiene, Dr. Bonner said, for if good habits of thought and behavior can be formed early in life, much mental disease and much unhappiness can be prevented. It is in adolescence that the larger proportion of mental diseases develops. Children should be properly prepared to meet the difficulties of adolescence and thus to avoid breakdown of mental health.

Maturity, however, does not make people immune from mental illness. Later on in life, particularly when there is a decline in the mental and physical powers, adjustments must be made and vigilance must be exercised in order to maintain good mental health.

Mental hygiene has two points of advice for persons at this age.

"First," Dr. Bonner said, "fixation on the physical symptoms must be avoided lest from a few real symptoms there develop a multitude of much more incapacitating ones. Second, the mental activity of these persons must be continued as usual. By keeping young in interests and in mind and by directing attention toward the use of their mental functions they will be stimulated through their own activity to feel that life still holds much in store."

Dr. Bonner stressed the danger to mental health that unwarranted worrying brings and quoted advice from Edward Everett Hale on this point.

"We should never attempt to bear more than one kind of trouble at once. Some people bear three kinds—all they have had, all they have now, and all they expect to have."

"Within that statement is set forth the essence of mental hygiene. If we could only keep these words before us constantly our days would be more serene, our nights more restful, and our production would reach its fullest extent with happiness and efficiency."

Dr. Bonner spoke over the Columbia Broadcasting System under the auspices of Science Service.

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