RESEARCH REPORT

Alcohol input and creative output*

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Summary

Is alcohol use a help or a hindrance for creativity? And, conversely, what effect does creative activity have on alcohol use? In order to answer these questions, relevant information was obtained from the biographies of 34 well known, heavy drinking, 20th century writers, artists or composers/performers. Analysis of this information yielded a number of interesting findings. Alcohol use proved detrimental to productivity in over 75% of the sample, especially in the latter phases of their drinking careers. However, it appeared to provide direct benefit for about 9% of the sample, indirect benefit for 50% and no appreciable effect for 40% at different times in their lives. Creative activity, conversely, can also affect drinking behavior, leading, for instance, to increased alcohol consumption in over 30% of the sample. Because of the complexities of this relationship, no simplistic conclusions are possible.

Souls of poets dead and gone.
What Elysium have ye known,
Happy field or mossy cavern,
Choicer than the Mermaid Tavern? (John Keats,
Lines on the Mermaid Tavern)

Accounts of well-known artists and writers, such as Ernest Hemingway, F. Scott Fitzgerald, Dylan Thomas, Jackson Pollock and Eugene O'Neill, have contributed to the assumption of a strong relationship between heavy drinking and creative expression. But the nature of this relationship is not spelled out. Does alcohol foster creativity by removing creative blocks and by stimulating original thought? Or is alcohol primarily an impediment to innovation and productivity? Is alcoholism the price the artist pays for engaging in the creative process? Or is heavy drinking a cultivated 'charismatic flaw' or simply the product of a bohemian, artistic

Previous studies on the incidence of alcoholism in creative individuals offer little help. For example, Ellis² reports no alcoholism in a sampling of over 1000 British 'geniuses'. Juda³ reports rates of 2.7% and 0.6%, respectively, in a sampling of pre-World War I, German 'artists' and 181 'scientists'. But Andreasen, using strict diagnostic criteria, reports a rate of 30% in a sample of American writers (N=30) compared to 7% in controls (N=30). From this range of findings, in entirely different samples, it is difficult to determine the importance of alcohol in the creative process, especially when most of the individuals evaluated manage to be productive and creative without any obvious dependence on alcohol.

With respect to the actual effects of alcohol on the creative process or parameters of creativity, research is limited. In a relevant study on normal volunteers, Nash⁵ found that smaller doses of alcohol (i.e. the equivalent of two martinis) tended to facilitate mental associations, while larger doses

lifestyle? These are only some of the many issues that beg resolution.¹

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(i.e. the equivalent of four martinis) tended to have mostly detrimental effects. With these larger doses, individuals tended to have greater difficulty in taking in visual details at a glance, discriminating rapidly among those details, making sense out of meaningful visual patterns that had previously been disrupted, recalling impressions that had been committed to memory, and performing complex tasks. A problematic study by Hajcak⁶ offers a somewhat different perspective on the effects of alcohol. Male undergraduates, permitted to consume alcohol on an ad lib basis, showed greater original productivity than when not allowed to drink but diminished 'appropriateness' and creative problem-solving ability when intoxicated. It also seems apparent that not all effects of alcohol are pharmacological in nature. Expectancies can play a significant role. In a study by Lang, et al.7 undergraduate social drinkers, administered 0.6 g of ethanol per kg of body weight, essentially demonstrated no differences in performance on selected measures of creativity when compared to a placebo condition. However, those individuals who believed they had received alcohol gave significantly more positive evaluations of their creative performance (even though they may not have received alcohol) compared to those who believed they had not received alcohol (even though they may have).

The only study, to my knowledge, specifically devoted to the effects of actual drinking habits on productivity in creative individuls—in this case, artists—was conducted more than 40 years ago by Roe, 8 but the results are largely anecdotal in nature. All of the established artists interviewed drank, but most avoided drinking while painting. All but one of 17 artists regarded the short-term effects of alcohol as deleterious to their work and none used alcohol to overcome technical difficulties. The general sentiment was that alcohol provided the freedom for painting but impaired the discipline. Interestingly enough, alcohol consumption also appeared to play a role in artistic style. All of the moderate drinkers, who also were the most well adjusted, were realistic painters. The steady social drinkers had a wide range of styles. And the excessive drinkers showed greater shifts in their style of painting.

Description of the present study

Aside from the paucity of appropriate data, the major problem in clarifying the role of alcohol on creativity appears to be of a conceptual nature. All too often, discussions about the relationship of

alcohol consumption to creativity are global, with little attention directed toward the intricacies of this relationship. Before any definitive conclusions are possible, it is necessary to resolve such basic questions as whether alcohol acts directly on creative output or through some intervening variables, whether different patterns of alcohol use affect creative work differently, and, conversely, whether the creative activity itself has any impact on alcohol intake. For the purposes of this study, the terms 'creativity' or 'creative output', about which so much controversy exists, operationally refer to any relevant product or performance on the part of the designated subjects, which can vary in amount, form and substance, regardless of professional consensus about true innovativeness or originality.

Fortunately, Richards⁹ has provided an excellent schema for evaluating such matters. According to this schema, which I have taken the liberty of modifying, 10 possible relationships between alcohol use and creative output can be postulated. Though cumbersome, this schema, to be described below, actually helps simplify an otherwise complex and confusing situation.

Alcohol intake directly increases creative output $(A \longrightarrow \upharpoonright C)$

This category indicates direct facilitation of the creative process, original thought or expressive output through the prior ingestion of alcohol. It may be assumed that this facilitation comes about by the actions of alcohol on certain basic brain processes, which allow a greater fluency of thought, a rearrangement of information into novel patterns, or a heightened sensitivity to stimuli that might otherwise remain subliminal or ignored.

For example, A. E. Housman, perhaps erroneously attributing his inspiration to alcohol rather than exercise, states, "Having drunk a pint of beer at luncheon, I would go out for a walk. As I went along... there would flow into my mind, with sudden and unaccountable emotion, sometimes a line or two of verse, sometimes a whole stanza."¹⁰

Alcohol intake indirectly increases creative output $(A \rightarrow I \rightarrow \uparrow C)$

This category indicates *indirect* facilitation of the creative process, original thought or expressive output through modification of certain intervening or moderating variables, such as by relieving pathological processes, pain or inhibitions, by offsetting

the effects of other drugs, like amphetamines, or by increasing motivation.

For example, the poet, Robert Lowell, who suffered from a debilitating manic-depressive disorder, writes, "I seemed to connect almost unstopping composition with drinking. Nothing was written drunk, at least nothing was perfected and finished, but I have looked forward to whatever one gets from drinking, a stirring and a blurring?" E. B. White offers another example of the indirect actions of alcohol: "Before I start to write, I always treat myself to a nice dry martini. Just one, to give me the courage to get started. After that, I am on my own." 12

Alcohol intake directly decreases creative output $(A \rightarrow \mid C)$

This category indicates direct impairment of the creative process, original thought or expressive output through the prior ingestion of alcohol. It may be assumed that this impairment comes about by the actions of alcohol on certain basic brain processes, thereby causing a diminished sensitivity to stimuli, a decreased fluency in thought, or an elevated threshold to perceptions ordinarily available during normal, waking consciousness.

For example, Eugene O'Neill states, "I will never, nor never have written anything good when I am drinking or even when the miasma of drink is left" (Shaeffer¹³, p. 424). Elsewhere, he compares the consistency of the brain after exposure to too much alcohol to the raw white of an egg that becomes hardened when cooked.

Alcohol intake indirectly decreases creative output $(A \rightarrow I \rightarrow \downarrow C)$

This category indicates *indirect* impairment of the creative process, original thought, or expressive output through modification of certain intervening variables, such as general health, mood, motivation or circumstances.

For example, Carson McCullers' drinking affected her health which, in turn, affected her writing. With Dorothy Parker, heavy alcohol intake appeared to worsen rather than help her writing block.

Alcohol intake unrelated to creative output (A:C) This category indicates no apparent relationship between alcohol intake, either before, during or

after the creative activity, on originality, fluency or expressive output.

For example, Frederic Remington, the artist, was a heavy, steady drinker, yet still was able to remain very productive. For much of his career. Ernest Hemingway was able to write his 500 words every morning despite the aftermath of any heavy drinking the night before.

Creative output directly increases alcohol intake $(C \rightarrow A)$

This category indicates that the creative process itself leads *directly* to the increased consumption of alcohol either as a means of modifying or stopping the heightened brain activity or coping with the psychiatric decompensation, insomnia or other symptomatology triggered by the creative work.

For example, Truman Capote states that once he began writing in earnest, his mind "zoomed all night every night, and I don't think I really slept for several years. Not until I discovered that whiskey could relax me." ¹⁴

Creative output indirectly increases alcohol intake $(C \rightarrow I \rightarrow \uparrow A)$

This category indicates that creative activity itself leads *indirectly* to increased alcohol intake in an effort to modify such intervening variables as the worsening of mood or anxiety, or the actions of other drugs (e.g. caffeine, stimulants). Alcohol intake also may increase as a consequence of certain subcultural expectations that creative individuls are supposed to be heavy drinkers or that reliance on alcohol is part of the creative burden.

As an example of the former, John Cheever usually became depressed after the completion of a novel, which, in turn, induced him to resort to alcohol in an attempt to alleviate his distress.

Creative output directly decreases alcohol intake $(C \rightarrow |A)$

This category indicates that creative activity itself directly leads to decreased alcohol intake either during the activity or after it has taken place. It is assumed, then, that the creative activity satisfies whatever drive is responsible for alcohol intake or that an extended creative project and alcohol intake are mutually incompatible.

For example, Dashiell Hammett decided to re-

main off alcohol during the entire time he was writing his fifth novel.

Creative output indirectly decreases alcohol intake $(C \rightarrow I \rightarrow \downarrow A)$

This category indicates that creative activity itself *indirectly* leads to decreased alcohol intake either during the activity or after it has taken place through the modification of such intervening variables as the relief of a writing block, an improvement in self-confidence or the alleviation of underlying psycopathology.

For example, William Faulkner often wrote to relieve his depression which, of itself, usually resulted in increased alcohol consumption.

Intervening variables directly affect either creative output (more or less) or alcohol intake (more or less) $(A \downarrow L \to L)$

This category indicates that certain intervening variables, such as prior motivation, personality or cognitive characteristics, as well as the presence or absence of psychopathology (e.g. anxiety, depression), can determine whether alcohol will be consumed or not or creative activity will occur or not. In this relationship, it is assumed that the intervening variables lead directly to one or another activity.

For example, Ernest Hemingway often drank to relieve depression or pain and wrote when his level of distress was low. When manic, Delmore Schwartz, the poet, would either write or drink, and sometimes both.

These, then, are the categories of relationships. What needs to be recognized is that these categorizations are arbitrary, simply representing ways of organizing information. It is possible, for instance, to expand the number of relationships by designating different subtypes of drinking patterns or creative activity or to collapse the number of relationships by always presuming the presence of non-specific, intermediary variables. Like all models, though, this schema cannot be judged by any absolute criteria of validity but rather by its explanatory and predictive power.

Now what about the sample under investigation? The pool of individuals from which the sample was derived were persons who had achieved eminence or reknown in their professions, lived at least some portion of their lives in the 20th century and whose biographies were reviewed in the *New York Times* Book Review from 1965 onward. Of the first 250

individuals in the pool on whom extensive standardized biographical information already had been obtained, all those who met the criteria both for achievement in the creative arts (i.e. writing, art, music, performing, etc.) and a reputation for heavy but not necessarily 'alcoholic' drinking at some point in their career, namely 34 subjects, constituted the study sample. Achievement in the creative arts by individuals was arbitrarily defined as having at least one biography posthumously published about them, regardless of any potential controversy about the objective merit or lasting value of their work. The criterion for heavy drinking conformed generally to the concept of alcohol dependence15 regardless of whether the drinking pattern was individual in nature or occurred within the context of a celebrity or bohemian lifestyle.

For the entire pool of subjects, the same type of information was systematically gathered from at least one major, published biography and transposed onto elaborte data collection forms. Major categories of standardized information pertained to demographic characteristics, childhood and adult traumas, schooling, professional achievements, family background, alcohol and drug use, medical and psychiatric problems, the potential impact of psychopathology on work output, and so on. Though much of the information was qualitative in nature, a high degree of reliability or concordance was insured by initially having project readers independently fill out and then mutually compare their data forms on the same subject. When discrepancies existed, they were discussed and reconciled.

Even with the methodological limitations inherent in any biographical study, ¹⁶ such as the potential for bias in the selection, presentation and interpretation of material, the anecdotal nature of the data, and the use of secondary sources, as well as the conceptual difficulty of finding subjects of comparable 'creativity' or representative of certain accomplishments within their particular fields, it nevertheless was possible to classify and then examine the intricacies of the relationships between drinking and creative output of individuals according to the schema described above.

Results

Of the 34 individuals (31 males and 3 females) examined, there were 28 writers or poets, 2 artists, and 4 composers/performers, a sample heavily weighted toward writers. All categorizations of alcohol-creativity relationships were based primar-

Table 1. Relationship of alcohol intake to creative output (N=34)

	A↑C	A⊸I⊸↑C	A⊸]C	A —I—∫C	A:C	C⊸∫A	C→I→↑A	C⊸↓A	C→I→ A	AĴ⊷I→ĴC
No. of subjects	3	17	26	6	15	2	11	4	1	13
% Total	8.8%	50.0%	76.5%	17.6%	44.1%	5.8%	32.4%	11.8%	2.9%	38.2%

A=Alcohol intake; C=Creative output; I=Intermediary variables; †=increase; |=decrease; →=leads to.

ily on the direct quotes of the individuals themselves, on observations by others on their drinking and work habits or on comments by the author of the specific biography. When such information was not explicitly available, inferences about this relationship were made on the basis of reasonable evidence or comments within the biography. These judgements are recorded in detail in Chart A, along with designations of which ones are most questionable. An attempt also has been made to distinguish whether certain relationships occurred during the early or late phase of drinking. It should be noted that most individuals tend to display more than one pattern with regard to drinking and creativity, depending upon their relative ability to regulate the amount of alcohol consumed, the time in their career when the drinking occurs, the state of their physical and mental health, or other variables. For purposes of convenience, Table 1 provides a condensation of these data.

Because of the exploratory and anecdotal nature of the survey, no statistical comparisons seem appropriate. Rather, a tabular presentation of the data appears to be the best format for examining the findings. All 10 types of relationship between alcohol input and creative output are represented but to markedly different degrees. Because almost all individuals display more than one type of relationship during the course of their lives, the total of the percentages for all categories of relationship adds up to more than 100%.

The most prominent finding is that the ingestion of alcohol appears to have produced a direct impairment in creative performance in over 75% of individuals.

That the effects of alcohol are not always perceived to be negative is demonstrated by the findings that almost 9% of individuals claimed to derive direct benefit from alcohol in their creative work and 50% claimed to do so indirectly, mostly during the early phases of their drinking. It also should be noted that over 40% of heavy alcohol consumers appear to have been able to contain or

control their drinking so that it did not interfere appreciably with their creative activity.

Like most relationships, the relationship between alcohol intake and creative output does not only go in one direction. For small numbers of individuals, sustained creative activity may also have led to increased alcohol consumption.

The results also indicate that for a small minority, the creative process itself may also have reduced drinking or led to sustained periods of abstinence. Usually, this came about through resolution of an underlying emotional difficulty that had contributed to heavy drinking, through satisfaction of some basic need or through a recognition that the creative activity was being adversely affected by drinking.

Alcohol intake and creative output were not always linked. The presence of intermediate variables, such as life crises, severe depression, pain, availability of opportunities and motivation, appeared to determine in over one-third of this sample whether individuals *either* resorted to heavy drinking *or* engaged in creative work without benefit of alcohol.

Discussion

From the results reported, it is apparent that the relationship between alcohol intake and creative output in accomplished individuals is highly complex. For the vast majority of individuals, alcohol consumption, either through its direct or indirect consequences, had a clearly detrimental effect on their creative activity, particularly when they did not or could not refrain from drinking when they were working. For Jack London, his stories became more conventional, his vocabulary and imagination deteriorated and he became repetitious as his alcoholism got worse. Intoxication interfered with John Barrymore's ability to recall his lines. When Phil Ochs sang under the influence of alcohol, he often would forget the songs or repeat certain lines. For Jack Kerouac, the quality of his writing decreased as his alcoholism progressed and much of

	A-1C	A—I—IC	A⊸įC	A⊸I⊸∫C A:C	.C C—1A	C—I—IA	C—ĮA	CI A A I C COMMENTS
Dashiell Hammett (W)			* X			×	×	Drinking, partying, womanizing affected productivity. Quit
W. H. Auden (W)			×				×	drinking to write fifth novel. Never wrote while drinking. Also
John Barrymore (P)			*	*	ć X			used amphetamines. Alcohol affected ability to recall lines.
Tennessee Williams (W)		×		×	<. X	X		Could sober up when had to. X Polydrug use. In later years nothing written unless under
Charles Laughton (P)			*	×	*			influence. Failed role when younger because drank too much to
John O'Hara (W)			×					steady nerves. X Quit drinking after developed
Christopher Morley (W)			×					oleeding licer. Never wrote while drinking. A methodical writer. Nothing
Jackson Pollock (A)		×	×					interferred with writing. Did not drink while worked but said alcohol made the painting
Delmore Schwartz (W)	×	×	X		×	×		possible. X Felt alcohol increased perception. Initially used alcohol to stimulate creativity but
John Strachey (W)			×					also used to calm mania. X Began drinking whiskey after heart attack, then writing
Robert Lowell (W)	×	×			×	×		Torinking stimulated writing, but could not complete. Manic
Phil Ochs (P)	×.	×	×	X	* ×			depressive. Drank to control symptoms. X Polydrug user. Manic depressive. Wrote and performed while intoxicated. Sometimes when drank would forget song. Unable to
Dorothy Parker (W)			×	×		* X		write when depressed. Alcohol seemed to aggravate her innate writing block. Lifestyle worsened drinking.

Eugene O'Neill (W)	×	×			×		Alcoholism provided subject matter for plays. Very productive after quit drinking. Plagued by depression.
F. Scott Fitzgerald (W)	×	×		×			X Claimed alcohol gave writing creative vitality. In early years, drank after wrote. In later years drank in order
William Faulkner (W)	×	×				×	X Alcohol sometimes helped and some times hindered. Help seemed related to relief of depression
Jean-Paul Sartre (W)	* X	* X		×			and writing block. Polydrug use. Alcohol used for direct effect and to moderate effects of other drugs. Words became more chaotic and thoughts
Hilaire Belloc (W)			ζX				Drank one bottle wine a day.
Jack Kerouac (W)	* *	×					work unartected. Believed alcohol helped him understand mankind better. Quantity and quality of writing less as
Frederic Remington (A)			×				alcoholism worse. Polydrug user. Heavy, steady, drinker. Very
Mark Twain (W)		×	ć. X				productive. Could not drink and write. Very productive. Cyclic mood. Alcohol loosened tongue but not
Lillian Hellman (W)		X ≠		×			Heavy alcohol use after became successful. Lifestyle worsened
Malcolm Lowry (W)	~ X	×					Wrote novel under influence. Alcoholism prevented further novels. He believed drinking prevented a "manning brothdown".
Jack London (W)		×			×		Work suffered from alcoholism. Vocabulary and imagination left. Became repetitious. Stories more conventional. Creative activity
Ring Lardner (W)		X ≠	* X				Creativity didn't suffer for long
W = writer/poet; $A = artist;$	P=performer/composer;	er; *=early	$\neq = $ late				

Chart A. (Continued.)

					-	,				
	A—IC	A—I—∣C	A—∫C	A—I—∣C A:C		C→ A C	C—I—∣A	C—[A	C—I— A Al—I—lC COMMENTS	.lc comments
										time but did so in latter years.
Ernest Hemingway (W)		*	* X	×			×		X	Alcoholic lifestyle later affected
										and pain by drinking helped
										writing early.
James Gould Couzzens (W)		~. * ×		* X	×					Alcohol often used for depression.
										Abandoned fiction and just
										kept diaries after gave up alcohol at age 67 hecause of
										folic acid deficiency.
Harry Crosby (W)		έX			ć X					Wrote under influence of
										alcohol and drugs. Obsessed
										with suicide.
Carson McCullers (W)				×	* X				×	Drinking did not affect writing
										directly but affected her health
										which affected writing. Drank
										for depression.
Evelyn Waugh (W)		<u>ر.</u> ۲			<u>ر</u> .				×	Suffered from depression and
										insomnia. Often drank to
										relieve symptoms.
James Thurber (W)		ć ⋆ X	X		≠ X		×			Drank as part of lifestyle and
										also to settle nerves. Suffered
										from toxic goiter.
John Cheever (W)		* *	×	×	* X		×		×	Claimed that alcohol stimulated
										imagination in early years. Marked
										decrease in output as alcoholism
										progressed. Usually depressed after
										finished novel or after drinking.
Bix Beiderbecke (P)			×		* X					Performance deteriorated as
										alcoholism worsened. Died age 29.
Brendan Behan (W)			×	×						As alcoholism got worse, could not
										marie and and

 $W\!=\!writer/poet; \qquad A\!=\!artist; \qquad P\!=\!performer/composer; \qquad \star\!=\!early \qquad \neq = late$

what he planned to write was never written. Bix Beiderbecke, the jazz cornetist, began having increasing trouble finding his 'embouchure' with the mouthpiece and, later, began relying more on a derby and other devices to mute his tone in an attempt to disguise his deficiencies.¹⁷

But the detrimental effects of alcohol are not across the board for all expressions of creative output. Certain kinds of activity may suffer, while others may remain relatively unaffected. F. Scott Fitzgerald, for instance, claimed that the finest perceptions of judgement and perception or organization of a long book do not go with liquor but writing a short story does. The detrimental effects of alcohol, as should be apparent, also tend to worsen over time as alcoholism progresses in severity and individuals lose the capacity to separate their drinking from their work. Ernest Hemingway, for example, or James Thurber for that matter, could spend their evenings carousing and drinking and then write without difficulty the following morning when they were younger, but this became more and more difficult to do as time went on.

What is also apparent from a review of these biographies is that social role expectations for creative individuals, at least in America, appear to favor heavy drinking, a notion convincingly espoused by others.¹² It is the rare writer, artist or actor in this sample of heavy drinkers who did not choose to meet with his compatriots in cafes, pubs or settings in which alcohol flowed freely, either early in his career as part of the bohemian, artistic lifestyle or later on as a consequence of his growing fame or celebrity status. Under these circumstances, it is little wonder that vulnerable individuals incoporated alcohol more and more into their daily routines, until it inevitably began interfering with their work, suggesting that the supposedly close relationship between heavy alcohol use and creativity may be less of a reflection of biological predisposition than an artifact of cultural expectations.

As indicated before, the effects of alcohol are not always detrimental to creativity. Three individuals (all of whom suffered from manic depressive disorder) claimed that alcohol, at least early in their drinking careers, facilitated the creative process. Delmore Schwartz, the poet, for instance, appeared to rely on alcohol not only for stimulating the creative process but, in time, for almost everything else as well: "I am an exaltation drinker, perhaps a sleep drinker or escape drinker too" (Atlas¹⁸. p. 200). For a much larger number of individuals,

one-half of the sample, alcohol appeared to exert a beneficial effect through removing roadblocks or impediments to creativity, such as relieving severe depression, as with John Cheever early in his career, or through modulating the effects of other drugs, as in the case of Jean-Paul Sartre who also relied heavily on stimulants and caffeine. Others, like Jack Kerouac, who believed that drugs and alcohol helped him understand the human condition better, or Jackson Pollock, who claimed that alcohol made his paintings possible although he seldom painted while he drank, apparently were referring to alcohol being helpful for the initiation of creativity rather than as fuel for the creative process itself. Kingsley Amis described this well. "And then, quaking, you sit down at the typwriter. And that's when a glass of Scotch can be very helpful as a sort of artistic icebreaker ... artificial infusion of a little bit of confidence which is necessary in order to begin at all... So alcohol in moderate amounts and at fairly leisurely speed is valuable to me—at least I think so. It could be that I could have written better without it...but it could also be true that I'd have written far less without it" (Plimpton, 19 pp. 191-192). In the case of Tennessee Williams, though, the potential benefits of alcohol are not so clear. Describing his work routine, he wrote, "I go to my studio. I usually have some wine there. And then I carefully go over what I wrote the day before. You see, baby, after a glass or two of wine I'm inclined to extravagance, I'm inclined to excesses because I drink while I'm writing, so I'll blue pencil a lot the next day. Then I sit down, and I begin to write" (Plimpton, 20 p. 99).

Then there are those individuals physically dependent on alcohol who do not feel 'normal' unless they can maintain a certain level of intoxication. Malcolm Lowry, who wrote his only novel, *Under the Volcano*, while relatively intoxicated, is a case in point. His situation also demonstrates the potential dilemma of how to categorize the effects of alcohol since, though alcohol enabled him to write, it was his very addiction to alcohol that made it so vital. In such instances, it does not seem appropriate to attribute any beneficial effects to alcohol.

One issue that needs to be addressed with regard to the potential beneficial effects of alcohol on the creative process is the possibility that this perception by individuals is entirely illusory—that it is a self-serving rationalization to keep them drinking or an artificial result of alcohol itself. Because of its pharmacologic properties, alcohol has the capacity to imbue perceptions, ideas and experiences with a

heightened sense of meaning.²¹ Alcohol makes things seem "more utterly utter", as William James observed, but the experience of increased significance may have little bearing on real meaning. John Irving, the novelist, for example, says that alcohol destroys the subtle 'interrelatedness' in novels and usually results in incoherent rambling.²² But even babble, when someone is intoxicated, can seem very profound. The real test is whether the insights or observations hold up in the light of sober reality.

Of course, the most objective way to test the validity of the claim that alcohol facilitates inspiration—or, at worst, does not impair creative performance, as apparently was the case in over 40% of the current sample, at least at some point in their careers—is to determine how well writers, artists, actors and composers function when they are completely detoxified and no longer suffering from the unsettling effects of alcohol withdrawal. Anecdotal accounts of certain members in this sample are instructive. John Cheever, who once claimed to derive inspiration from his drinking, wrote his most acclaimed book, Falconer, after he became abstinent. Eugene O'Neill had a very productive period in his life after he stopped drinking, as did John O'Hara. During an extended, sober period in the 1950s, Jackson Pollock, who previously had felt that alcohol made his paintings possible, had a burst of creativity, producing 32 paintings, including four of his greatest. Then, of course, there are the countless creative and productive individuals—those not even discussed in this survey—who never have shown any reliance on alcohol. Observations such as these shed doubt on the validity of personal observations by certain members in this sample about the benefits of alcohol on their work.

Where alcohol indisputably appears to facilitate creativity is not through its direct effects but through its actions on certain intermediary variables, such as those capable of inhibiting creativity. For instance, Delmore Schwartz and Robert Lowell, both poets who suffered from mania, often used alcohol to keep their writing from becoming more disorganized and discursive, or when depressed, to stimulate thought. These are clear examples, among many, where alcohol appears to have a salubrious effect on creativity through certain of its pharmacological actions, at least before alcoholism becomes a dominant problem in its own right.

Now what about the reverse side of the relationship between alcohol intake and creativity—namely, the ways by which creative activity can influence alcohol consumption? In this area, commentary necessarily will be brief, largely because so many

unknown variables are involved. In Rothenberg's view,²³ the creative process stimulates arousal and anxiety by reversing the censorship of unconscious material and thereby allows writers or artists the opportunity to gain conscious control over their inner psychological worlds. When the anxiety continues, alcohol may well become a welcome source of relief. Certain creative individuals also may drink more over time for the same reasons that many ambitious, driven individuals do, such as to 'wind down' or relieve insomnia, 12, 24 and not necessarily because of any basic personality flaws, biological vulnerabilities or pathogenic properties of the creative process itself. In certain cirumstances, creativity may stimulate drinking, but so too, for that matter, may any kind of sustained, mental activity or cortical arousal. Whether there is anything distinctive about the impact of creative effort on the desire for alcohol remains to be determined.

Despite the interpretive, provisional nature of this report, it does lead to at least one inescapable conclusion, one message that comes through all the noise: that is, there is no simple, invariant relationship between alcohol use and creativity. Heavy drinking may be detrimental to creative activity, but not always so for all individuals. It is for this reason that judgements about this relationship must be tempered by a number of qualifiers, such as the amount, duration and pattern of the drinking involved, the existence of certain impediments to creativity that are potentially capable of being temporarily relieved by alcohol (e.g. pain, depression, drug use), and the impact of motivation, talent and opportunity on productivity. It is probably because of these and other qualifiers that the mystique about the importance of alcohol for creativity has existed so long despite substantial evidence to the contrary. It also is why it probably will continue to persist.

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