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English 251
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The Chemistry of Literary Theory

Featuring:

Barbara Herrnstein-Smith

Jacques Derrida

Harold Bloom

Roland Barthes

Peter Rabinowitz

Wolfgang Iser

C.J. Pascoe and Tristan Bridges

Wayne Booth

Barbara Herrnstein-Smith, "Contingencies of Value"

AND

Gibbs Free Energy

Gibbs Free Energy is an equation used to determine if a reaction occurs spontaneously (without additional work being done to a system).

The Gibbs Free Energy equation is:

$$\Delta G = \Delta H - T\Delta S$$

ΔG is the change in free energy (energy available to do work) in kJ (kilojoules)

+ ΔG = the reaction does not occur spontaneously

- ΔG = the reaction occurs spontaneously.

ΔH is the change in enthalpy (total heat energy in a system) in kJ

+ ΔH = enthalpy is increasing in the system. Heat is taken from surroundings.

- ΔH = enthalpy is decreasing in the system. Heat is lost to surroundings.

ΔS is the change in entropy (amount of disorder in a system) in kJ

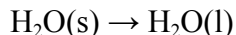
+ ΔS = entropy is increasing (disorder is increasing) in the system

- ΔS = enthalpy is decreasing (disorder is decreasing) in the system

T is the temperature in Kelvin (-273.15 °C (absolute zero) = 0K)

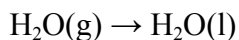
In order for a reaction to occur spontaneously, the ΔG must be negative. There are some reactions for which this is always true and some reactions for which this is never true. If ΔH is negative and ΔS is positive, ΔG will always be negative, and the reaction will always be spontaneous. If ΔH is positive and ΔS is negative, ΔG will always be positive, and the reaction will never occur spontaneously. These aren't really important for this comparison, so we'll just ignore these.

However, there are some reactions which are spontaneous only in certain conditions. If both ΔH and ΔS are positive, the reaction will only occur at high temperatures. The $T\Delta S$ value must be enough to overcome the ΔH value. Take the example of melting ice:



Here, the system takes in more heat, so the ΔH is positive. The disorder in the system is increasing (liquids are less ordered than solids), so the ΔS is also positive. For the reaction to occur, the temperature must be high enough to overcome to allow the ΔS to overcome the ΔH . Generally, this temperature is above 273.15K (0°C).

If both ΔH and ΔS are negative, the reaction will only occur at low temperatures. The negative ΔH value must be enough to overcome the $T\Delta S$ value. Take the example of water condensing from a gas to a liquid:



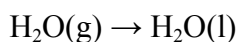
Here, the system is losing heat, so the ΔH is negative. The disorder in the system is decreasing (liquids are more ordered than gases), so the ΔS is also negative. For the reaction to occur, the temperature must be low enough to overcome to allow the ΔH to overcome the ΔS . Generally, this temperature is 373.15K (100°C).

These last two cases, where spontaneity depends on environment, are the ones that will be used in this comparison.

In Barbara Herrnstein-Smith's "Contingencies of Value," she compares the survival and evolution of literary works to the survival and evolution of organisms. If a literary work "performs certain desired/able functions particularly well at a given time for some community" it will have a "survival advantage" (Herrnstein-Smith 27). The book will be reprinted, frequently cited, and easily accessible for subsequent generations. This makes it unlikely that the work will be forgotten. Herrnstein-Smith claims there are two possible trajectories for a literary work. The literary work will fade into obscurity if "the functions for which the text was earlier valued are no longer desired" or if other, newer works perform the same functions in a more effective way (27). In this case, the work remains forgotten unless rediscovered as a "relic" of historical value by subsequent generations. However, if the work still survives despite "changing conditions and . . . competition with newly produced and other re-produced works," it will continue to be referenced and cited, making it "visible and available" to future generations (27-28). In addition, Herrnstein-Smith argues that all value attributed to literary works is value given to them by society. A work that is considered incredibly useful and valuable by one society may be considered worthless to another society.

Herrnstein-Smith's ideas can be compared to the two situations where spontaneity depends on temperature. (For the sake of the metaphor, I'm ignoring the two situations where ΔG is always positive or always negative. According to Herrnstein-Smith, literary works have no intrinsic value). In this comparison, spontaneity will be analogous to whether a literary work survives or not. The literary work will be represented by a certain chemical reaction. Temperature will represent the changing environment that a literary work has to survive in. If ΔG is negative, and the reaction occurs spontaneously, then the literary work continues to be effective and will survive. If ΔG is positive, and the reaction does not occur spontaneously, then the literary work is rendered obsolete and fades into obscurity.

Again, take the reaction involving the condensation of water:



In this reaction, both ΔS and ΔH are negative. The ΔH must be large enough to overcome the $T\Delta S$ number. If the temperature is initially 300 K (56.85 C), the reaction will occur

spontaneously. In this environment, the literary work will remain useful and will continue to be quoted and reproduced. In this case, the literary work will be unlikely to be forgotten. However, if the temperature were to increase to 400K (156.85 C), the reaction would no longer be spontaneous. In this different environment, the literary does not fulfill a need or serve a purpose. Because of this, the book will fade into obscurity and be forgotten. While it serves a purpose in one environment, it may not do so in another.

Summary:

Chemical Reactions where spontaneity depends on temperature = Literary Work

Temperature: Differing environments

Reaction occurs spontaneously ($-\Delta G$) = Literary Work is not forgotten, continuously reproduced

Reaction does not occur spontaneously ($+\Delta G$) = Literary Work is not reproduced, forgotten, and fades into obscurity

Jacques Derrida, "Structure, Sign and Play in the Discourse of the Human Sciences"

AND

The Heisenberg Uncertainty Principle

Compared to come of the other chemistry concepts, the *Heisenberg Uncertainty Principle* is pretty easy to understand. Basically, it states that is is impossible to measure both the momentum (mass * velocity) of a particle and the position of a particle at the same time. The more that is known about one of these things, the less that is known about the other.

Similarly, Derrida reveals the flaws in the structuralist system. According to Derrida, there is no ultimate center of a system or truth. The center of a system, by definition, "while governing the structure, escapes structurality" (Derrida 257). The center of a structure is both inside and outside of the structure. In addition, the center is infinitely substitutable for other things. It is necessary to supplement the center with additional words or meanings. By itself, the center of a structure doesn't mean anything. Because of the lack of center, structures experience "play... a field of infinite substitutions only because it is finite" (267). Things in the structure can shift and move. This movement eventually causes the structure to fall apart. There is no center which "arrests and grounds the play of substitutions" (267). Because of this, all structures fall apart. There is no one absolute truth or ultimate signified.

The particle in the Heisenberg Uncertainty Principle is kind of like the structures that Derrida breaks apart. It is impossible to find the ultimate truth about the particle; there is always at least one aspect of the particle that escapes structurality. This is kind of like Derrida's concept of play regarding structures. Even if you know the precise momentum of a particle, there are infinite possibilities about what it's position can now be. If you figure out the position of a particle, then there are now infinite possibilities about what it's momentum might be. It is impossible to figure out the exact momentum and position. There is always some element of uncertainty.

Roland Barthes, “The Death of the Author”
AND
Multi-Step Reactions, Catalysts, and Intermediates

A *multi-step reaction* is a reaction that takes several elementary steps (smaller chemical reactions) to occur completely.

A *catalyst* is a substance that makes a reaction happen more quickly, but is not used up in the overall reaction. It usually does this by lowering the activation energy (energy it takes for a reaction to start) of a chemical reaction.

An *intermediate* is a substance that forms during one step of a chemical reaction, but is used up before the reaction finishes.

Let’s take the example of the decomposition of hydrogen peroxide into water and oxygen. While this reaction happens very slowly on its own, with a catalyst it occurs much more quickly.

Overall Reaction: $2\text{H}_2\text{O}_2 (\text{l}) \rightarrow 2\text{H}_2\text{O} (\text{l}) + \text{O}_2 (\text{g})$

Step 1: $\text{H}_2\text{O}_2 (\text{l}) + \text{I}^- (\text{aq}) \rightarrow \text{H}_2\text{O} (\text{l}) + \text{IO}^- (\text{aq})$

Step 2: $\text{H}_2\text{O}_2 (\text{l}) + \text{IO}^- (\text{aq}) \rightarrow \text{H}_2\text{O} (\text{l}) + \text{O}_2 (\text{g}) + \text{I}^- (\text{aq})$

In this case, I^- is the catalyst (present in the same form before and after the reaction) and IO^- is the intermediate (formed temporarily during the reaction, but used up before the end).

This phenomenon will be compared to Roland Barthes’ idea of the Author versus the scriptor. Barthes argues that the author should be ignored completely when analyzing a literary work. Giving a text an Author “impose[s] a limit on the text” and gives it a “final signified” (Barthes 147). When interpreting a work, people have a tendency to look to the author for the final answer or ultimate “explanation of a work” (Barthes 143). However, in reality, there is no final meaning that can be found in a literary work. Barthes claims that the Author should be replaced with a scriptor. The Author is “conceived of as the past of his own book” and “is thought to nourish the book” (145). The Author exists before and after the book is created. He cares for the book like a “father to his child” and “exists before it, thinks, suffers, lives for it” (145). The Author gives the text an ultimate meaning or source. On the other hand, the scriptor “is born simultaneously with the text” and is not a subject “preceeding or exceeding” the writing (145). The literary work has “no other origin than language itself” (146). The scriptor exists simply to record the work. He has no purpose or existence outside of that. With a scriptor, the text has no ultimate meaning. A text can be “disentangled” but never “deciphered” (147).

Although “the structure can be followed” for a little while, “there is nothing underneath” (147). There is no hidden meaning in a text that, if the reader searches hard enough, can be found and deciphered. The poststructuralist scriptor frees the text from the confines of having an ultimate meaning.

In this example, the overall chemical reaction would be analogous to the literary work. The Author is the equivalent to the catalyst I^- in the above example. The catalyst exists unchanged before and after the reaction. Like the Author who “nourishes” the text, the catalyst lowers the activation energy for the reaction, allowing it to occur at a much faster rate. In contrast, the scriptor is comparable to the intermediate IO^- . The intermediate exists only at the time that the reaction occurs; it does not precede or exceed the reaction. Similar to the scriptor, who exists only at the “time . . . of the enunciation,” the intermediate exists only to complete the reaction (145). While the catalyst could be studied and observed following the reaction, the intermediate would be completely absent.

Summary:

Catalyst = Author

Intermediate = Scriptor

Overall Chemical Reaction: = Literary Work

Harold Bloom, "A Meditation on Priority"

AND

Activation Energy

Activation energy is the minimum energy required for a reaction to occur. If the needed energy is unavailable, the reaction will not occur.

An *endothermic reaction* is a reaction where the products are at a higher energy level than the reactants. (Energy/heat is taken from surroundings).

An *exothermic reaction* is a reaction where the reactants are at a higher energy level than the products. (Energy/heat is lost to surroundings).

A *catalyst* lowers the activation energy necessary for a reaction to occur.

Observe the above curve. The peak of the upper curve corresponds with the activation energy required for the reaction to occur. The peak of the lower curve is the required activation energy after the addition of a catalyst. More energy is required to start a reaction than will be present at the end of the reaction. Eventually, the products will be at a different energy level (either higher or lower) than the reactants. If there is not enough energy given, the reaction will not occur. In both endothermic and exothermic reactions, a certain amount of energy is required before the reaction can occur.

According to Bloom, in order to be a successful, a poet must have "strength to overcome his [or her] anxiety of influence" (Bloom 1156). The "anxiety of influence" is the intimidation or inadequacy current poets feel when they compare themselves to past poets. In order to overcome this influence, poets must have the strength to "wrestle with their strong precursors, even to the death" (1156). Poets do this through "poetic misprision" which is the process of "misreading one another . . . to clear imaginative space for themselves" (1156). Bloom claims that poets must distort or misinterpret past poets if they want to succeed. He later compares this to a "family

romance” where the son kills the father in order to take his place (1157). Current poets “kill” past poets, so they can become them. If the poet does not have the strength or will to do this, he will be doomed to obscurity.

In this example, the reaction will be compared to a modern poet. If the poet is successful, the reaction will occur. If the poet is unsuccessful, the reaction will not occur. The activation energy will represent “the anxiety of influence” from past poets. In order to occur, the reaction must reach a certain energy level equal to or greater than the activation energy. If this energy is not obtained, the reaction will fail. Similarly, if a poet is unable to overcome his anxiety of influence, he will not be successful.

There are a few ways to obtain the necessary activation energy. One of these ways is by adding a catalyst, which lowers the required activation energy. This can be compared to the “poetic misprision” mentioned earlier. Like current poets distort past poets to overcome the anxiety of influence, the catalyst distorts the reaction curve, moving it downward and decreasing the amount of energy necessary for the reaction to occur. This allows the reaction to occur more easily. Another way for the reaction to obtain the necessary activation energy is through heat. Increasing the heat can give the reactants enough energy to pass the activation energy threshold. This can be compared to a poet achieving the motivation and ability to metaphorically “kill” past poets. When the reaction achieves the necessary energy, it occurs successfully. Similarly when the poet can overcome his anxiety of influence, he is able to be successful.

Summary:

Activation Energy = Anxiety of Influence

Chemical Reaction = Poet trying to be successful

Chemical Reaction occurs = poet is able to overcome anxiety of influence and be successful

Chemical Reaction does not occur = poet is unable to overcome anxiety of influence and is unsuccessful

Addition of a Catalyst = poetic misprision

Addition of Heat to overcome Activation Energy = poet having strength to “kill” past poets

Peter Rabinowitz, “Actual Reader and Authorial Reader”

AND

Theoretical Yield, Actual Yield, Percent Yield

Theoretical Yield is the calculated amount of product that will be produced in a chemical reaction, assuming the reaction goes to completion.

Actual Yield is the actual amount of product that is produced in a chemical reaction

Percent Yield is the percentage of the theoretical yield that was produced.

$$\text{Percent Yield} = \frac{\text{Actual Yield}}{\text{Theoretical Yield}} \times 100$$

Peter Rabinowitz defines the difference between the *actual audience* and the *authorial audience*. He defines the authorial audience as the group of readers who the author has “in mind,” either consciously or unconsciously, when he or she “design[s]” the work (Rabinowitz 25). The author makes certain assumptions about what his or her audience will understand and value, taking for granted that readers will be familiar with certain concepts or ideas. The authorial reader can be compared with the theoretical yield. It is the expected outcome to a reaction. The chemist makes some assumptions about the reaction and assumes that it will go to completion in the calculation. This is analogous to the assumptions that the author makes about the authorial audience. While these assumptions and calculations are not always accurate, they are still an important step in the process.

In contrast, the *actual audience* is made up of readers who physically read the author’s work. The author has no real control over this group or the ideology of its members, and it can vary greatly from the author’s intended audience. This is the equivalent of the actual yield in chemistry. Like the actual audience’s point of view and perspective can differ greatly from the authorial audience, the actual yield can be much less than the theoretical yield.

Although the actual yield and the theoretical yield may be very different, both are necessary to calculate percent yield. Percent yield is useful to chemists because it enables the prediction of actual yield given theoretical yield. So, instead of performing a reaction to determine actual yield for every possible amount of reactant, the chemist can find it for one amount and extrapolate that for other amounts. Because of this, theoretical yield is essential.

Similarly, Rabinowitz claims that in order to understand the work as the author intends, members of the actual audience must “distance” themselves from their “own immediate needs and interests” and read from the perspective of the authorial audience (25). The reader, or member of the actual audience, should temporarily put his or her own background and ideology aside in order to see the work as the authorial audience would. While the member of the actual

audience may not share all the beliefs and prejudices as a member of the authorial audience, viewing the work in this way increases the reader's understanding of the work as a whole.

Reading from the perspective of the authorial audience and calculating theoretical yield are both essential steps in interpretation for literature and chemistry. Although is it not the final means for interpretation, it provides a solid basis to build off of.

Summary:

Theoretical Yield = Authorial Reader

Actual Yield = Actual Reader

Wolfgang Iser, “The Reading Process: A Phenomenological Approach”

AND

Equilibrium and Le Chatelier's Principle

Equilibrium: in most chemical reactions, the reaction never fully goes to completion. Instead, the rate of the forward reaction (reactants to products) just equals the rate of the reverse reaction (products to reactants). Take, for instance, the equation for the dissociation (breaking apart) of acetic acid ($\text{HC}_2\text{H}_3\text{O}_2$) in water (H_2O), forming acetate ($\text{C}_2\text{H}_3\text{O}_2^-$) and hydronium (H_3O^+). Eventually, the equation stabilizes once a certain amount of product is produced. It is not because the forward reaction *stops* happening, but because the reverse reaction happens at the same rate. So, for every molecule of acetic acid that breaks apart, another molecule of acetic acid is formed, keeping the ratio of products to reactants unchanged. While outwardly the solution appears unchanged, on molecular level, the reaction is still dynamic.

	<u>Products</u>	<u>Reactants</u>
Equilibrium Reaction:	$\text{HC}_2\text{H}_3\text{O}_2 (\text{aq}) + \text{H}_2\text{O} (\text{l}) \rightleftharpoons \text{C}_2\text{H}_3\text{O}_2^- (\text{aq}) + \text{H}_3\text{O}^+ (\text{aq})$	
Forward Reaction:	$\text{HC}_2\text{H}_3\text{O}_2 (\text{aq}) + \text{H}_2\text{O} (\text{l}) \rightarrow \text{C}_2\text{H}_3\text{O}_2^- (\text{aq}) + \text{H}_3\text{O}^+ (\text{aq})$	
Reverse Reaction:	$\text{C}_2\text{H}_3\text{O}_2^- (\text{aq}) + \text{H}_3\text{O}^+ (\text{aq}) \rightarrow \text{HC}_2\text{H}_3\text{O}_2 (\text{aq}) + \text{H}_2\text{O} (\text{l})$	

In Wolfgang Iser’s article, “The Reading Process: A Phenomenological Approach,” Iser discusses how meaning is equally created between the artistic, the text created by the author, and the esthetic, the realization and coming into meaning accomplished by the reader. Author and reader work together to create meaning in the text.

“The literary work cannot be completely identical with the text or the realization of the text, but in fact must lie halfway between the two. The work is more than the text, for the text only takes on life when it is realized, and furthermore the realization is by no means independent of the individual disposition of the reader - though this in turn is acted upon by the different patterns of the text. The convergence of text and reader brings the literary work into existence” (Iser 1002).

In this passage, Iser discusses how meaning is shaped by both the text and the reader. Similar to equilibrium, the author and the reader, represented by the “forward reaction” and “reverse reaction” respectively in this comparison, work together dynamically to form meaning, or equilibrium. The reader, or reverse reaction, creates just as much as the author, or forward reaction. However, if the author gives too much information, the reader is given little to imagine. This can lead to boredom on the part of the reader. On the other hand, if the author gives too little information, the reader is left to imagine too much. This leads to overstrain for the reader.

A similar phenomena can be seen when stress is applied to a system at equilibrium. In a system at equilibrium, *increasing* the concentration of a reactant causes rate of the forward

reaction to increase. *Decreasing* the concentration of a reactant causes the rate of the reverse reaction to increase. Let's take the example of the dissociation of acetic acid.

Equilibrium Reaction (Meaning): $\text{HC}_2\text{H}_3\text{O}_2 (\text{aq}) + \text{H}_2\text{O} (\text{l}) \rightleftharpoons \text{C}_2\text{H}_3\text{O}_2^- (\text{aq}) + \text{H}_3\text{O}^+ (\text{aq})$

Forward Reaction (Author): $\text{HC}_2\text{H}_3\text{O}_2 (\text{aq}) + \text{H}_2\text{O} (\text{l}) \rightarrow \text{C}_2\text{H}_3\text{O}_2^- (\text{aq}) + \text{H}_3\text{O}^+ (\text{aq})$

Reverse Reaction (Reader): $\text{C}_2\text{H}_3\text{O}_2^- (\text{aq}) + \text{H}_3\text{O}^+ (\text{aq}) \rightarrow \text{HC}_2\text{H}_3\text{O}_2 (\text{aq}) + \text{H}_2\text{O} (\text{l})$

In this example, increasing the concentration of acetic acid, a reactant, would cause the equilibrium of the system to be broken as the rate of the forward reaction increases to become greater than the rate of the reverse reaction. This would be the equivalent to Iser's concept of *boredom* on the part of the reader. The author gives too much "product" which causes the author's imagination, or rate of the forward reaction, to become much greater than the reader's, or rate of the reverse reaction. The reader does not have to work hard enough to establish meaning.

On the other hand, decreasing the concentration of acetic acid, would cause the rate of the reverse reaction to increase as the system works to restore equilibrium. This is equivalent to Iser's idea of *overstrain* for the reader. As the author gives too little information, or "product," the reader, or the "reverse reaction" has to work harder to create meaning, or to restore equilibrium.

Summary:

Reactants: artistic text created by author

Products: esthetic realization accomplished by reader

Rate of Forward Reaction: Imagining done by author

Rate of Reverse Reaction: Imagining done by reader

Equilibrium: Creation of Meaning

C. J. Pascoe and Tristan Bridges, “From Masculinity to Masculinities”
AND

Ionic, Metallic, Covalent, and Acidic Bonds

In Pascoe and Bridges article, “From Masculinity to Masculinities,” four different forms of masculinity are discussed. These forms of masculinity, hegemonic, subordinated, complicit, and marginalized, can be compared with the four types of intramolecular bonds (within atoms in molecule): ionic, metallic, covalent, and acidic.

Hegemonic Masculinity and Ionic Bonds:

The first form of masculinity discussed is hegemonic masculinity. According to Pascoe and Bridges, hegemonic masculinity “refers to the most culturally exalted forms of masculinity” that “justify dominance and inequality” (Pascoe and Bridges 18). The position of hegemonic masculinity ensures “the dominant position of men and the subordination of women” (Connell qtd. in Pascoe and Bridges 18). Hegemonic masculinity is the dominant masculinity given the most power and authority.

This masculinity can be compared to an ionic bond between a cation (positive ion) and anion (negative ion). (Note: an ion is an atom that is no longer in a neutral state). In this case, the anion will represent males with hegemonic masculinity, the cation will represent females, and the valence electrons (outer electrons involved in bonding) will represent power and authority.

In an ionic bond, electrons are completely transferred from the positive cation to the negative anion. Or, all of the power goes from the female to the male possessing hegemonic masculinity. Take the example of sodium chloride (NaCl), or table salt. Before bonding, Na has one valence (outer) electron, and Cl has seven valence electrons. When Na and Cl₂ combine to form NaCl, an electron is transferred from Na to Cl to form an ionic bond. In this case, sodium (Na⁺) is the cation, and chlorine (Cl⁻) is the anion. The chlorine ion now possesses eight valence electrons while the sodium ion possesses no valence electrons. Similarly, hegemonic masculinity completely dominates and takes power and authority.

Subordinated Masculinity and Metallic Bonds:

The second form of masculinity discussed is subordinated masculinity. Subordinated masculinity are the “configurations of masculinity with the least cultural status, power, and influence” (18). This is often considered to be homosexual or queer masculinity. People exemplifying this form of masculinity are often “expel[led] from occupying masculine statuses” by the use of derogatory language (18). This language often implies femininity and includes words such as “sissy” and “girly” (18).

This masculinity can be compared to a metallic bonds, which are formed entirely from anions. Metallic bonds are malleable and can be easily shaped. In this case, anions will represent males exemplifying subordinated masculinity. Like the previous example, electrons represent power and authority.

In a metallic bond, each ion completely gives up its electrons creating a free flowing “sea of electrons.” (This is what allows metals to be such great conductors of electricity). No ion in the metal possesses any valence electrons. Similarly, those with subordinated masculinity are not given any power and authority. Although the power is all around them, none of it belongs to them. They can be compared with the “female” cations used in the previous example. Their power is taken away

Complicit Masculinity and Covalent Bonds

Complicit masculinity is a form of masculinity where men do not directly contribute to the subordination and oppression of women, but they still benefit from this subordination. Although they are not “actively involved in the subordination,” they still reap the benefits (19). For example, a man in an egalitarian relationship with his wife may still benefit from the “gender wage gap, feelings of safety, authority, respect, and bodily integrity” (17). These benefits are called the “patriarchal dividend.”

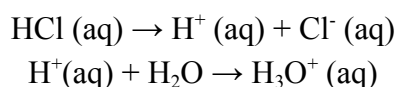
In covalent bonds, the electrons are shared between both atoms. There are no ions that form in covalent bonds because electrons are not completely transferred. So, in this example the more electronegative atom will be a male with complicit masculinity whereas the less electronegative atom will be a female. (Note: As a general rule, electronegativity increases across the periodic table and decreases down the periodic table.) While both atoms share the

electrons, the more electronegative “male” atom still has some advantages. The more electronegative atom tends to “tug” electrons away from the other atom. Although they are still shared, the electrons tend to cluster around the more electronegative ion. Similarly, although the relationship between the female and the complicit masculine is egalitarian, the male still retains some advantages. He naturally has more power, or “electrons” than the female.

Marginalized Masculinity and Acidic Bonds

According to Pascoe and Bridges, marginalized masculinity refers to “the interplay of gender with other structures such as class and race” (Connell qtd. in Pascoe and Bridges 19). Although some masculinities “share some ground” with hegemonic masculinity, they are still “marginalized by and to” hegemonic masculinity (19). Many masculine traits that are praised in the white, middle class body are punished in others. For instance, a white man with large muscles may be praised whereas a black man with large muscles may be considered scary or dangerous.

Similarly, “acidic bonds” are really just ionic bonds, but the cation is H^+ . (H^+ reacts with water to form hydronium, H_3O^+ . Hydronium concentration is what is used to calculate pH. Greater H_3O^+ Concentration = More Acidic, lower pH). For example, take hydrochloric acid, or HCl. This is a strong acid that completely dissociates (separates into ions) in water. Once the H^+ and Cl^- ions separate, the H^+ ion reacts with water to form hydronium. This process is shown below.



Although acids are the same as ionic bonds, unlike table salt they are considered scary and dangerous. Although these bonds are the same as ionic bonds, they are treated differently and considered “dangerous.” This is similar to how, the same traits that are praised in white males, are penalized or considered dangerous in black males.

Wayne Booth, “Who is Responsible in Ethical Criticism and for What”

AND

Lab Safety :D

Basic Rules of Lab Safety:

1. Be aware of where all emergency/safety stuff is located. (Fire extinguisher, fire blanket, eye wash, safety shower, giant emergency button)
2. Always wear goggles, gloves, and apron.
3. Tie long hair back, especially when near open flames.
4. Wear close-toed shoes.
5. Clothing should not be too loose or baggy (again, open flames)
6. Don't horse around while in lab.
7. Always read instructions carefully and pay attention to any additional instructions that the teacher gives.
8. Don't eat or drink during lab. Especially not any of the lab materials.
9. Pay careful attention to cleanup instructions regarding chemicals. Wash all beakers and materials with soap and water.
10. Leave your lab area neat and tidy.
11. Have fun and learn something!

In this article, Booth argues that readers must be actively involved in the reading process in order to be ethical readers. Readers have responsibilities to the text, themselves, and others. The reader has a responsibility to “enter into a serious dialogue with the author about how his or her values join or conflict” with the reader’s (Booth 135). In addition, the reader has a responsibility to “honor an author’s offering” but “take an active critical stance against . . . its errors or excesses” (136). A reader must do his or her best to understand the points that the author is making. However, the reader must be aware of where the text might go too far or be incorrect. Once a book is read and analyzed, the reader has a responsibility to share the “appraisals of the narrative” and promote a “vigorous conversation” about the work (136). Once a reader forms a response to the work and the ideas presented within, he or she has a responsibility to share and discuss these findings with the world.

The responsibilities of ethical reading that Booth presents are intended to help both the reader and everyone around the reader. Similarly, lab safety rules are there to help keep the student and other students safe. The student should pay attention to the instructions for the lab. This idea can be compared to Booth’s idea of accepting the author’s offering for what it is. Making sure that the reader understands what the author is saying is an important part of ethical criticism. In addition, the experimenter has a responsibility to those around him or her, just like the reader has a responsibility to discuss his or her response to a literary work.

As my chemistry teacher always said (after assigning us like a billion labs to complete all the time) the best way to learn a chemistry concept is to experience it for yourself in lab. This is

similar to Booth's analogy of literature as obscenity or porn. The only way to know if something is pornography is to see it for yourself. You have to read an author's work and respond to it in order to decide if you agree or disagree with it.

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