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VIEWPOINT

Human Gross Anatomy: A Crucial Time to Encourage Respect and Compassion in Students

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We suggest four ways in which human gross anatomy instructors can reinforce respect and compassion in students. First, encourage respectful language in the laboratory. The term "donor" should be used instead of "cadaver" or "corpse" in referring to the donated body because this promotes appreciation for the students' first "patient." Second, provide the students with the actual name, age, history, and likely cause of death of the donor so that they more fully appreciate the donor as having once been a living human being. Third, prompt students to explore feelings and discuss topics stimulated by the intense experience of human dissection. Suggested topics include the students' feelings about dissecting a human being, the difficulty in deciding to donate one's body, the central importance of anatomy to a medical practitioner's role, and the historical development of the study of anatomy. Fourth, hold a memorial ceremony, in which both students and faculty participate, as a positive closure to an emotionally and intellectually intense course. Additionally, a ceremony reinforces salutary values in students, enhances social bonding among students, and encourages their appreciation of various cultural and religious beliefs. These methods introduce a new dimension of experience for anatomy students. We have developed these methods in response to what we view as a negative trend in the medical profession in which health care becomes technical and patients become objects. It is our role as faculty to reinforce respectful and compassionate attitudes in medical students from the very beginning.

Key words: medical education, dissection, thanatology, death, memorial ceremony, physician assistant

INTRODUCTION

The gross anatomy course in medical school education provides the first opportunity for instructors to help students appreciate patients as whole persons. In the anatomy laboratory, students are confronted with the body of a person who has voluntarily, in most cases, surrendered himself or herself to the medical profession to be palpated, probed, cut, explored, discussed, and evaluated. In a similar way, patients surrender their bodies to medical professionals. The student-donor relationship is thus a model for the clinician-patient relationship, and first experiences are powerful first lessons for the students.

Caring for patients as whole persons requires treating them with respect and compassion. In order to encourage the development of clinicians who treat patients as whole persons, it is essential that their education support this goal. As instructors of beginning medical students, we are role models. The values we display to students, and encourage them to develop, will influence the manner in which they, as future clinicians,

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provide care for patients. Therefore, it is necessary to treat students with respect and compassion as well as encourage their respectful and compassionate behavior towards others.

Human gross anatomy is a course that has profound effects upon students. A large number of studies report that students of human dissection often exhibit a variety of psychological and physical disturbances engendered by this unusual experience: apprehension, anxiety, nausea, intrusive visual images, nightmares, insomnia, learning impairments, and preoccupation with death (Penney, 1985; Gustavson, 1988; Bertman and Marks, 1985, 1989; Horne et al., 1990; Finkelstein and Mathers, 1990; Druce and Johnson, 1994). The more severe of these disturbances resemble typical symptoms of persons suffering from post-traumatic stress disorder (Finkelstein and Mathers, 1990). Furthermore, Penney (1985:59) found that the "shock and revulsion of the students caused by the actual dissection did not appear to wear off as rapidly as other studies have shown." In fact, her study indicated that signs of apprehension persisted in the majority of students throughout the entire human dissection course.

Therefore, it is not surprising that students consistently express a need for more adequate psychological and emotional support during the laboratory course in human dissection (Penney, 1985; Druce and Johnson, 1994). As instructors, we can show students respect and compassion by acknowledging this need. Educators, such as Bertman and Marks (1985, 1989; Marks and Bertman, 1980), have developed formal courses that prepare and support students throughout the process of human dissection. Others, following the example of Kubler-Ross (1969), have developed more general courses that encourage medical students to explore and express their attitudes and feelings about topics such as death and dying (e.g., see Corr, 1978; Bugen, 1979a,b).

Even when formal courses and seminars are available to support students taking human gross anatomy, the laboratory course itself is a critical opportunity for students and faculty to explore and express the human side of medicine. Indeed, we believe that this setting allows instructors to provide direct and effective support to students while they are actually involved in dissecting human bodies.

In this paper, we suggest four practical ways in which instructors of human gross anatomy can help students develop respect and compassion for their patients. First, encourage students to use respectful language in the laboratory. Second, provide students with as much information as possible about the donated body. Third, engage students in discussions in which they explore death and dying and other topics inspired by the intense experience of human dissection. Fourth, establish a memorial ceremony, created by students and faculty, as an appropriate closure to the anatomy laboratory course.

DEVELOPING RESPECT AND COMPASSION IN THE LABORATORY

Language

Language has the power to shape perceptions. Habits of respectful language learned in the anatomy laboratory will influence the way students think, speak, and act in their future careers.

Edward Sapir, a founder of anthropological linguistics in the United States, defined his understanding of the relationship between language and perception as follows (1931):

> Language is not merely a more or less systematic inventory of the various items of experience which seem relevant to the individual, . . . but is also a self-contained, creative symbolic organization, which not only refers to experience . . . but also *defines experience for us* [emphasis ours].

One way of encouraging respect through language is to use the word "donor" rather than "cadaver" or "corpse," as suggested by Dr. Dennis Osmond, Chair of the Department of Anatomy and Histology at McGill University in Quebec, Canada (Paskey and Laverdure, 1990). The term "donor" connotes positive and selfless acts, such as the donation of blood and organs to sick patients and the donation of clothes and food to the poor and homeless. The terms "corpse" and "cadaver," on the other hand, are words with more negative connotations. These terms are often associated with crime reports and investigations. "Donor" also refers to a person, whereas "corpse" and "cadaver" suggest a dehumanized object. Clearly, "donor" acknowledges the conscious gift made by a living person of his or her body.

We believe that the term "donor" is appropriate for an unclaimed body as well. Since the introduction of the Uniform Anatomical Gift Act of 1968, medical schools in the United States have relied increasingly upon bequested bodies rather than unclaimed bodies for dissection (see Dalley et al., 1993; Jones, 1994). Therefore, even if some of the bodies are unclaimed, "donor" can be used in the laboratory for the sake of uniformity, even though this term is not technically accurate.

However, we do feel that it is important to discuss with students the distinction between donated and unclaimed bodies. Historically, medical institutions have tended to exploit the poor and mentally ill as a source of bodies for dissection, and using these un-

claimed bodies raises ethical questions (see Jones, 1994). Students should treat all the bodies with equal respect and compassion, as they are benefitting equally from all of them. Students who do so may well apply this lesson to the care of indigent and homeless patients in their future practices.

Constant use of the word "donor" by students and faculty throughout the anatomy course will continue to remind us that we are privileged recipients of extraordinary generosity. It would be additionally supportive if the idea of donation were acknowledged and the language expressive of this gift utilized in human dissection guides.

Identification

Our second suggestion is to supply students with as much information as possible concerning the personal and medical history of the donors. It is our experience, and that of others (Druce and Johnson, 1994; Penney, 1985; Wear, 1989), that students often want to know this information. Instructors can cooperate by allowing access to the death records, provided these are not confidential. Students may then learn the name, age, history, and the probable cause of death of their donor. This will personalize the donor and increase the appreciation by the students that the body they are dissecting was once a living human being.

Frequently, students give their donors names. This indicates their need to create an identity in order to form a relationship with the body they are dissecting. Even if the full name on the death record cannot be given by the instructor, it may be possible to reveal the correct first name or initials. This is more respectful and reinforces the connection to a real person.

We believe that it is important for students to know where their donors have come from and what will become of them after they have been dissected. In our 1993 course, it was comforting for our students to know that the remains of their donors would be cremated and the ashes returned to the donors' families after the laboratory course was completed.

Clinical information about the donor, such as the probable cause of death, is useful to the student because it provides a context for anatomical observations during dissection. For example, if the donor had a history of pulmonary disease, especially due to smoking, the pathological features of this disease can be observed after the thoracic cavity is opened. Besides enriching the learning experience, the observations of the anatomical aspects of a person's history again reinforce the student's appreciation of the donor as a human being.

A relative of one of the authors (S.E.W.) was considering donating her body to medical science. Upon reviewing this paper, she became very impressed by the respectful attitude our students had expressed towards their donors as teachers. As a result, she decided to donate her body for dissection by students. However, she intends to amend the donor form to include a personal message to her future students explaining her unique medical history. We believe that allowing the possibility of such donor-to-student communication would create in the students a strong sense of responsibility to treat their donors with respect. The donor would also be directly granting the students permission, even requesting them, to explore the body left behind. Awareness by the students of the donor's intent has been shown to help them deal effectively with many of the anxieties and questions raised by human dissection (Bertman and Marks, 1989).

The Use of Discussions

Our third suggestion involves encouraging students to explore feelings and discuss topics that are stimulated by the experience of dissection. The anatomy laboratory is an appropriate place to introduce such discussions for several important reasons. First, students taking anatomy are beginning their medical education and are highly impressionable (Hull, 1991; Gustavson, 1988; Segal, 1987; Druce and Johnson, 1994). Second, many students admit that they have disturbing psychological and physical reactions during the course of dissection (Horne et al., 1990; Finkelstein and Mathers, 1990; Druce and Johnson, 1994; Penney, 1985). Raising these feelings to consciousness is an important step toward resolving them (see Pynoos and Nader, 1988; Johnson, 1987, 1992; Mitchell, 1981). It is essential for students to "confront their own anxieties and to deal with them honestly, so that they do not interfere with the humane treatment and understanding of patients" (Schweitzer, 1985:439). Third, students spend a great deal of time in contact with their peers in small social groups around the dissecting table. Such a non-threatening social environment provides a good opportunity for students to express their personal views (Bugen, 1979b; Hurtig and Stewin, 1990). Last, it is our observation that during the many hours of dissection ample time is available for discussion.

We believe that it is the responsibility of the instructors to guide the students in these discussions. Themes concerning the nature of death and dying have been a focus for philosophers, artists, writers, poets, theologians, anthropologists, and psychologists throughout history. In fact, the meaning of life and death has been contemplated by human beings throughout our evolution, as evidenced by the elaborate burials, cave paintings, and artifacts of prehistoric humans as far back as one hundred thousand years ago. Therefore, there ex-

ists a wealth of material—articles, poems, artwork, photographs, films, songs—for instructors to use to stimulate discussions. Bibliographies of a number of useful resources have been published by Bertman and Marks (1985, 1989). Poems written by medical students themselves are especially relevant. Collections of student poetry written for the annual William Carlos Williams Poetry Competition are available from the Human Values in Medicine Program at Northeastern Ohio Universities College of Medicine, Rootstown, Ohio, 44272-0095.

Topics for discussion can be introduced by instructors both informally, while visiting students' individual dissection tables, and formally, when presenting the guide to the day's dissection. For instance, simply closing a presentation with a question is a good technique to stimulate discussion. Friedlander (1992:252–253) has remarked that "using poetry is a gentle way of reminding my students (and myself) of the human significance of death and suffering, and that some of the world's most gifted people have struggled with the same issues."

Following are several topics for discussion. First, encourage students to talk about their reactions to seeing and dissecting a dead human body. Questions that can help students express themselves include: "What were your feelings when you first saw the dead bodies?" and "How did you feel as you made your first cut?" Discussions prompted by questions such as these can help students explore their own feelings about death.

It is common to find that students are anxious about dissecting a human being. They often express their concern about losing their sensitivity in dealing with future patients, especially in dissections of the face, hands, and genitalia (Gustavson, 1988; Segal, 1987; Druce and Johnson, 1994; Finkelstein and Mathers, 1990; Wear, 1989). Unfortunately, students frequently deal silently with these issues, often denying or repressing their feelings (see Penney, 1985; Druce and Johnson, 1994; Bertman and Marks, 1989). Horne et al. (1990:646) point out that "to dissect a cadaver is not simply a neutral, technical exercise but raises questions about the relationship between human biology and psychology. It allows the discussion of difficult topics such as human dignity, mortality, grief, and how to deal with emotions experienced by both patients and doctors." Similarly, Cahill and Dalley (1990:235) comment that gross anatomy "provides an occasion for reflection on the intrinsic value of life and empathy for future patients."

Second, discuss with students how a knowledge of anatomy is central to their roles as medical practitioners. This will help them to appreciate that the trust between patient and clinician, in which the patient submits his or her body for palpation and invasion, is based on the clinician's unique understanding of human anatomy and the empathetic way in which the patient's body is handled (see Crisp, 1989). In the laboratory, the appreciation of these views can be reinforced by asking the students to think of the donor as their first "patient." Instructors can help students develop respectful habits of patient care by encouraging gestures such as covering areas of the body not being studied, especially those considered private, such as the buttocks, genitalia, and breasts. Interesting questions for discussion are: "How would you conduct yourself around a patient who is comatose, anaesthetized in preparation for surgery, or just recently deceased?" We recommend the recent film "The Doctor" (Touchstone Pictures, 1991), which is an entertaining exploration of issues raised by these questions.

Third, explore the history of anatomy with students. This will help them become aware of the great privilege that they have in dissecting a donated body. Recently, Rodning (1989) has discussed from a historical perspective the beneficial effects that human dissection has had on medical education and medical advances. A good question to prompt discussion is: "How do you feel about the use of unclaimed bodies for dissection?" Jones' (1994) viewpoint article entitled "Use of Bequeathed and Unclaimed Bodies in the Dissecting Room" is provocative.

Fourth, discuss with students the concerns one may have in making the decision to donate one's body for medical education. This will help students understand that these decisions are often very difficult for donors and their families. Pertinent questions that instructors can ask include: "How would you feel about donating your body to future medical students?" and "How would you advise a friend or family member who asked you about donating his or her body?"

We realize that time constraints may prohibit thorough discussions in the laboratory. However, by merely introducing such topics instructors sanction them as worthy of consideration. Also, by showing concern for students' feelings, instructors validate the expression of these feelings.

Prior to dissection, instructors can be extremely helpful to students by explaining that there is a wide range of reactions that they may experience when confronted with and asked to cut into a dead body. Instructors should stress that these are *normal reactions to an abnormal experience.* It is important to be specific and describe the possible reactions as well as to allow students an opportunity to ask questions and express their feelings (see Mitchell, 1981). This simple technique of educating people prior to a critical incident can reduce stress reactions (see Keane et al., 1992; Johnson, 1992).

We recommend that instructors be aware of services for psychological referral within their institution. If an instructor notices that a particular student is having unusual difficulty dealing with any of these topics or with dissection itself, this student should be referred to an appropriate professional. It is important to remember that a student who is unusually quiet may be experiencing as much stress as the student who is inappropriately expressive (Pynoos and Nader, 1988; Johnson, 1987, 1992). Students should be assured that seeking help in dealing with these powerful issues is not a sign of weakness, but can strengthen their self-awareness and help them become more effective healers.

Memorial Ceremony

An effective way of reinforcing respect and compassion in medical students is to hold a memorial ceremony at the close of the laboratory course. Most important, a memorial ceremony provides positive and healing closure to a course in human dissection that is intellectually and emotionally intense. Additionally, since a ceremony is experiential in nature, it is more effective than didactic methods in communicating values of respect and compassion (see Hurtig and Stewin, 1990; Durlak, 1979). As one student reminded us, exercising compassion is like exercising a muscle—the more you flex it the stronger it gets!

Holding a memorial ceremony at the close of the human gross anatomy laboratory course is not a new concept. Recently, we have become aware of a number of other medical schools that hold memorial services, including McGill University (Paskey and Laverdure, 1990); The Medical College of Georgia (Colborn and Lause, 1993); New York Medical College (Anonymous, 1993); University of Massachusetts Medical School (Bertman and Marks, 1989); The Mayo Clinic; University of Hawaii; Dalhousie Medical School, Nova Scotia; and several medical schools in the United Kingdom (Druce and Johnson, 1994). These memorial services are often reported to be important and meaningful events for their participants. In fact, at the University of Massachusetts Medical School, 90% of students surveyed believed that the memorial service was the "most important ingredient or highlight of their experience the first year" of medical school (Bertman and Marks, 1985:379). We applaud these programs and are encouraged knowing others feel that holding a memorial service is a valuable tradition to add to the human gross anatomy curriculum.

The memorial ceremony held by the students and faculty of the Sophie B. Davis Biomedical program at CUNY in 1993 was a powerful experience for all who participated, judging from the reactions during and discussions following the ceremony. A number of memorial services we are aware of have been held in school chapels or auditoriums and presided over by chaplains. We felt it was important to hold our ceremony in the laboratory in the presence of the donors. The closure that the ceremony provided seemed more complete by not being removed from the setting in which human dissection took place.

The ceremony itself belonged to all of us and was no more or less than all of our offerings, including poems, songs, letters, and spontaneous thoughts. A reliance on spontaneity allows each class to create a unique memorial and each student who participates to feel ownership of the experience. We are convinced that the effects are most powerful for the students if they create the ceremony themselves, with encouragement and participation from faculty.

In the following paragraphs we describe the memorial ceremony held by the CUNY biomedical and physician assistant students and faculty. We hope this account will convey the actual feeling of the ceremony and communicate its positive effects.

> After the final practical exam, we gathered in the laboratory. As the students arrived, they visited their donors for the last time, left bouquets of flowers with them, and tucked poems and letters of personal thanks inside the bodies to be cremated along with them. One student brought an assortment of flowers picked from his own garden. He piled the blossoms on a table in the front of the room. A student who helped organize the ceremony began by stating why we were gathered: ". . . to thank the donors and their families for this last gift of their physical selves so that we might learn to help others."
>
> The first offering was made by one of the authors (S.E.W.), who recited a Tibetan Buddhist candle prayer as she lit candles arranged on the table. She explained that the prayer meant that all sentient beings, including the donors, had played the part of our parents in former lives and so they deserve our love and gratitude. The prayer expressed the hope that the feeling of compassion for others will continue to grow in us all.
>
> The ceremony had no formal order. Moments of silence between offerings lasted until someone felt moved to speak. Such moments seemed full of meaning as we contemplated the previous offering.
>
> A group of students recited the Mourner's Kaddish in ancient Aramaic. Then several students read letters aloud in which they thanked the donors and their families. Some letters by

students acknowledged the difficulty of the decision to donate one's body.

To the families:

. . . It is through this course that many of us achieved a better understanding of how fragile and yet how beautiful life can be. The human body is an incredibly detailed and excellently organized entity in our world . . . .

Our class wishes to express our condolences for the passing of your loved one, to thank you for the precious gift of knowledge with which you provided us, and share the hope that the knowledge we gained will lead to improved treatments and cures for the multiple ailments of human existence. Bless you and thank you (from a letter by Renee Stevens).

The young man who wrote the following poem (excerpted here) had been particularly concerned about losing his sensitivity in dealing with future patients if he could so easily dissect a body. He was about to cut into the genital region, and suddenly dissection became mutilation. Subsequently, this student became involved in planning the memorial ceremony.

Elder the Younger

Together we ride the waves from mutual tears
And my heart was ripped asunder as I removed the many limbs
"Go on my friend observe the primordial mystery
Look into me and gather your dreams and see creation's beauty"

"Joy can come, from learning one's worth, when not even here
And smiles can shine, when the demised are observed with care
Give to me a sense of need, show me my body can aid
Do not discard me when you are through, remember my withering face"

A face I have disfigured in pursuit of clinical dreams
A man who gave me no permission to desecrate his sacred being
How mechanical I was at times not knowing
He is the field, and his fruits I reap, must be replenished in the new sowing

"And sow you must, lest our bodies be just flesh
And our endeavors to be passive pedagogues
Are dismissed by an unconcerned pupil
Sow our seeds in your profession and medical thoughts"

Alone in a field of decaying flesh and curdled blood
I encountered a man departing from his life
And he asks me my reason for treading these grounds
Will I leave here more enriched, or will the sights dissuade me?
I could not answer, my throat suppressing rebelling whimpers
And I asked for his hand as I viewed a humane anatomy
I learned to value my body, my life
An irony, to be taught by a lifeless figure
An irony, to be taught by a lifeless figure (from a poem by Shivcharran Hulaise).

One student spoke of her uncle, who had died some years ago, and had donated his body to a medical school despite the objections of his family. She had supported his wish at the time but felt confused because of the family conflict. As she spoke, her arm rested gently on the plastic shroud covering her donor's body. She told how proud she was now of her uncle's decision and recognized how this ceremony helped her say goodbye to him.

An original poem was recited by a student as he faced the room full of bodies, bowing to them each time he repeated the refrain.

TO YOU THE DEAD
We the living . . . salute you!
TO YOU THE DEAD
We the living . . . salute you!
We thank you for this, your greatest gift.
For only through your gift can we the living
Now begin on our path to learn the sacred arts of healing.
To heal the sick and ill in body
To ease the suffering of those in pain
To comfort those who will pass from this world
TO YOU THE DEAD
We the living . . . thank you!
For through your gift at your journey's end
We the living can let our journey begin.
TO YOU THE DEAD
We the living . . . thank you
For this, your greatest contribution to life!
(Richard Burzine)

An instructor (E.E.H.) had written a song expressing the donor's point of view as a

"teacher" (Fig. 1). He performed it on his guitar. The humor in the song was appreciated, and laughter was healing after some more serious poems and letters.

One of the authors (W.G.K.), as course director, expressed his appreciation that the students wanted to hold this ceremony. He recited Robert Frost's poem "The Road Not Taken" and told us how it has special meaning for him. His words were particularly meaningful to all the participants as he is courageously facing his own physical deterioration from Lou Gehrig's disease and had been very open with the class about his condition.

At the end of the ceremony, we all joined hands and felt close to each other as a community of people of different ages, religions, and ethnic backgrounds, sharing the common experience of anatomy laboratory with this memorial ceremony as a fitting end. The students then gathered the flowers from the front table and distributed them silently to all the bodies. As we left the room, we looked back at the unusual sight of a room full of stainless steel dissecting tables, each supporting the remains of a donor draped with a green plastic shroud, mounded with flowers. The anatomy lab had become a sanctuary.

In addition to the psychological closure that a memorial ceremony provides for the students, we believe that it has other positive effects. The ceremony strengthens the social bonds among students who have spent many hours working closely with each other in the anatomy laboratory. Furthermore, it fosters an appreciation of the plurality of cultures, religions, viewpoints, and feelings. This awareness is important for medical students, physician assistant students, and others in the allied health professions who will be treating patients and collaborating with colleagues from a variety of cultural and religious backgrounds.

DISCUSSION

The institutions of our own culture are now subjects for scrutiny by anthropologists. In particular, medical anthropologists conduct their ethnographic field work in our medical schools (see Segal, 1987; Gustavson, 1988). They seek to understand the culture of medical education, particularly in the human gross anatomy laboratory. Two recent studies indicate that anatomy instructors limit the process of dissection to a technical and objective exercise (Gustavson, 1988; Segal, 1987). The broader psychological and philosophical issues raised by human dissection are typically not explored in the laboratory course.

Segal (1987) and others argue that this process of depersonalization continues throughout traditional medical education and in its extreme form produces physicians who are essentially technicians. They follow objective routines on patients who are treated as objects. The dehumanization of both physician and patient is an unhealthy foundation on which to base a profession that aims to heal (see Nuland, 1994; Hull, 1991; Dyer, 1992; Black et al., 1989; Horne et al., 1990).

The medical disciplines of thanatology and medical humanities have emerged in response to the inadequacies of this mechanistic model of medicine. Educators in thanatology and medical humanities have developed a respected body of theory and practice that has emphasized the importance of encouraging values of compassion and respect in medical students (see Kubler-Ross, 1969; Kutscher et al., 1987; Kastenbaum, 1986; Marks and Bertman, 1980; Bertman and Marks, 1985, 1989; Hull, 1991; Dickinson, 1985; Dickinson et al., 1987; Fertiziger, 1988; Druce and Johnson, 1994; Self et al., 1993; Wear, 1987, 1989).

We have taken the message of Kubler-Ross and others to heart. We are convinced both through observation and experience that it is essential to integrate the "scientific" view of the human body as an object with a more holistic view of the patient as a person. There is no better place to begin this integration than in human dissection, typically a first-year course in medical education.

In this paper, we have suggested four practical ways in which anatomy instructors can encourage the development of respect and compassion in their students. Students will always appreciate the scientific aspects of medicine. But exploring the same disciplines from a humanistic perspective as well will help create clinicians who are more than technicians. We would like to see our institutions graduate true healers—skilled medical professionals who are not afraid to practice compassion.

Cast Your Flowers

written by
Eugene E. Harris

Fig. 1. Song written and performed for human gross anatomy memorial ceremony held in 1993 at CUNY Medical School.

(Cast Your Flowers, continued. . .)

Verse 2

You've turned me 'round from supine to prone, so that I have forgotten what's up and what's down.
You've traced each nerve to it's terminal twig, and followed each vessel to its anastomosis.
And you have learned well, and I have taught you well, 'cause I have thought of you, well beyond me to you.

Chorus

Verse 3

On the board you've drawn these portraits of me, those ones with each shade of the color wheel.
But I don't recall I ever looked like that, no I don't recall I ever looked like that, at all.
And you have learned well, and I have taught you well, 'cause I have thought of you, well beyond me to you.

Chorus

Figure 1 (continued)

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