

## **Touch: a resource for making meaning**

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### **Abstract**

In this article we attempt to provide some ways of thinking about touch. Our aim is to develop new insights into 'touch', as well as in meaning making and communication more generally, by bringing into 'explicitness', meanings which, at present are referred to by labels such as 'implicit', 'tacit' or 'embodied'. We wish to show that this discussion needs to happen, and it needs to become more precise before we can attempt to settle various issues in connection with touch, such as the implications of touch-screens and other touch-technologies. The frame for our discussion is Social Semiotics. Taking examples from different domains and communities of social practice, ranging from shoulder tapping and clinical examination in hearing and sighted communities, through to tactile signing in deaf-blind communities we explore ways in which touch is used as a resource for making meaning, and unpack the multiplicity of meanings attached to the term itself. One question that is central to our discussion is whether and if so, how, touch can represent and communicate meanings and develop into a 'mode' that can serve a 'full' range of semiotic functions within a community.

### **Introduction**

Two, not immediately though indirectly, connected developments have led to a renewed and quite intense interest in *touch* as a resource for making meaning. One is the quite recent arrival of the so-called 'touch-screens'. The other, indirectly connected issue, also of renewed

and intense attention, is that of meaning which seems to 'exist' implicitly / tacitly / in an embodied form. There we are dealing with ways of knowing which are not subject to traditional means of recording / documenting via writing, speech, image-based means, or by means of numerical representation, etc. The current, growing, interest in Multimodality (Jewitt, 2014) moves beyond existing disciplinary tools, such as supplied for instance by Linguistics, to explore, document and describe all the semiotic means, the *modes*, which a community has developed to *make meaning material*. The move to make evident all the means available for making and shaping meaning, needs a much wider, more encompassing conceptual/theoretical frame. For us, that is supplied by Social Semiotics (Hodge and Kress 1988; Kress 2010; van Leeuwen, 2005). In that *Social Semiotic Multimodal* frame one question immediately poses itself: "Is touch a *mode*?" or slightly differently, "Can touch be or become a mode?" Hovering above all is the simple fact that the word touch – whether as noun or verb - is vague; we might say that touch is a homophone of a complex kind.

In this article we attempt to provide some ways of thinking about this, framed by the issue of touch as a mode within a Social Semiotic theory. There is a likelihood that the rapid spread of technologies in which touch is used, will lead to an equally rapid rush to naming the phenomenon and its effects in ways which may not be helpful, or worse, misleading. We would like to forestall this possibility by slowing the discussion down, just a bit.

At one level the questions brought by both developments are quickly answered: yes, touch can be a mode; touch already is a mode for certain social groups. In one instance of the latter case it is known as 'tactile signing'. To quote from Wikipedia: "Several methods of Deafblind communication may be referred to as Tactile Signing...Hand-over-hand (also known as

'hands-on signing'): The receiver's hands are placed lightly upon the back of the hands of the signer to read the signs through touch and movement. The sign language used in hand-over-hand signing is often a slightly modified version of the local Sign Language....The sign language used may also be a manually coded version of the local oral language (such as Signed English), or a mid-way point between the two known as contact signing."<sup>1</sup>

The conception of mode we adopt – one that looks at and relies on social use - conforms to the proposal put forward in *Multimodal Discourse* (Kress & van Leeuwen, 2001), namely that what counts as a mode is what a community has developed into and uses as a mode – ‘a semiotic resource with a certain regularity of use for communication’ - and which fulfils the purposes which that community needs to have fulfilled with that mode. We would want to extend that description of what can count as mode further, by saying that for something fully to count as a mode it needs to meet the requirements of the three ‘Hallidayan’ semiotic functions, namely to deal with interpersonal, ideational and textual meanings (Kress, 2010; Kress, 2014). Each of these semiotic functions deals with what Halliday (1984) regards as an essential aspect of a fully functioning representational and communicational resource: to be able to convey meanings about the social relations of those who are engaged in interaction; to account for states of affairs – ‘goings-on’ – in the world; and to be able to form complete semiotic entities, which display coherence internally and externally with the environment in which they occur.

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<sup>1</sup> For examples of tactile signing see e.g.  
<http://www.youtube.com/watch?v=LarnqAGeH6c>  
<http://www.youtube.com/watch?v=B7vbRRKwpms>  
<http://www.youtube.com/watch?v=ov6hXwsep0s>

So our question is whether touch could be developed into – perhaps already is – a *mode* for a much wider use than just for a community which, for reasons of physiological limitations, has to ‘fall back on’, so to speak, the affordances of touch as a material, as the ‘stuff’ which can be elaborated into a semiotically ‘full’ communicational resource (as in ‘tactile signing’). The question is: can touch ‘represent’ meanings arising within the three meta-functions for a larger community? That takes us into the second domain, that of exploring and if possible of bringing into ‘explicitness’, meanings which, at present are referred to by labels such as implicit / tacit / embodied meanings. In order to get further with that, we need to clear the ground a bit; and in particular, we need to try to allocate areas of meaning to already existing, competing and overlapping, sets of terms. We are thinking of the range of social practices and meanings clustered around terms such as action and interaction; manipulation; gesture; of (another homophone) ‘feeling’; and no doubt quite a few others.

However, to make this point at the beginning: we make a clear distinction between the mode of *gesture*, and (the possibility of) touch being a mode. A standard definition (from the Cambridge Advanced Learner’s Dictionary (CALD)) of gesture is something like “a movement of the hands, arms, or head, etc to express an idea or feeling”. We expand this slightly, without here giving an account of *gesture*, that, communicationaly, *gesture* is produced through integrated sets of movements of hands, fingers, arms, and facial expression and is received through sight (Bezemer, 2014). *Touch*, by contrast, relies on the contact of – usually – hands or fingers by the maker of the sign with parts of the body of the recipient / remaker of the sign.

A social semiotic account of touch focuses on semiosis; it does not account for touch as a sense. We take 'sensors' and 'receptors' for granted; our account starts where 'interpretation' begins. We might make a start by considering two perspectives on touch. One perspective looks at touch as a resource for 'inward' meaning making; the other looks at touch as a resource for 'outward' meaning making. The former perspective recognizes that all instances of touch are meaningful to at least one person: the person touching. The latter perspective is more specific in focus; it looks at touch as a means for representation and communication; that is, instances where touch is used to address a specific other or group of others. Both perspectives recognize and take it as given that 'others' may always interpret the use of touch by anyone, regardless of whether the person touching is addressing anyone, or is attempting to communicate with someone else.

### **Touch as resource for 'inward' making meaning**

In this perspective we look at the person acting, the 'toucher'. The person touching something attaches meaning to and gains meaning from that which they touch. That which is touched may be 'animate' (another person, i.e. 'interpersonal' touch, or an animal) or 'inanimate' (a surface for instance, to feel and understand its texture or temperature).

When observing people touching we can see them relating to touch in two different ways. In many instances touch operates 'in the background'; in other instances 'touch' is brought to the fore. We call the former 'implicit' touching and latter 'explicit' touching. In order to be able to refer to these (relatively rough and ready) distinctions, we use a notation as follows: when we use the word touch in a non-technical sense [notation: touch]; *implicit touching*

[notation: touch<sup>m</sup>]; *explicit touching* [notation: touch<sup>ex</sup>]; *touch-as-mode (of representation and communication)* [notation: touch].

***Implicit touching*** [notation: touch<sup>m</sup>]

Implicit touching is touching we take for granted, such as when we touch tools/materials we routinely act with and on. For instance, when we hold a knife to chop an onion, knead dough, type, play the piano, tap on links on a touch-screen. This touching is often difficult to describe: it is based on 'tacit' knowing of degrees of pressure, pressure points et cetera.

Polanyi (1966), who famously wrote that "we know more than we can tell", puts it as follows:

"Anyone using a probe for the first time will feel its impact against his fingers and palm. But as we learn to use a probe, or to use a stick for feeling our way, our awareness of its impact on our hand is transformed into a sense of its point touching the objects we are exploring. [...] we become aware of the feelings of our hand in terms of their meaning located at the tip of the probe or stick to which we are attending." (Polanyi, 1966: 12-13).

Implicit touching is meaningful, on the part of the person touching. If noticed by others it will be interpreted, and be meaningful for the observer. We might say therefore that it is communicational; however, the fact that it is, is due to the interpretation of the observer and not to an intention on someone's part to communicate. For instance, we attach meaning to the hairdresser's touch, especially when she or he accidentally hurts us (we might interpret the mishap as a sign of incompetence). Nevertheless, if we were to use the notion of

intention, we would say that the intention on the part of the person touching<sup>im</sup> is not to represent something or to communicate about touch to and for others. It is *an action which is not addressed* to a communicational other.

***Explicit touching*** [notation: touch<sup>ex</sup>]

Explicit touching is touching to 'explore' the world - surfaces, temperature, structures, textures, and so on - through touch<sup>ex</sup>.

As with implicit touching there is an effect on the explorer, who *feels* what the tangible characteristics of this bit of the world are. Yet in explicit touching an intention is signalled by actively *feeling for something*: how cold, how smooth, how rough, what structure. This is touch quite in the sense of the white stick used by the sight-impaired person in exploring their world by tactile means. Meaning is definitely involved here. Communication, however, is not the issue; it is not the intention and neither is representation. When we see a person in the street 'navigating' by means of touch<sup>ex</sup> – with the help of the prosthetic stick – we do not assume that she or he is communicating to or with me, even though we are very likely to take note of, and interpret that action.

Put differently, in explicit touching the person touching *orients to* touch, for instance as the person is uncertain about what s/he is touching and when there is potential for harm. This orientation is often marked by the way in which an object is touched. For instance, we might tell from the way in which somebody touches water (say, dipping of the surface with the feet, rather than a sudden plunge) whether that person is certain of the temperature or not. Or imagine a dealer examining a fragile piece of art offered to him by touching it. In these

contexts touch becomes an 'active' resource to gain meaning from what is touched; what is touched is not taken for granted but examined.

Under certain circumstances, such as in pedagogic contexts, explicit touching becomes communicational: the person touching addresses a specific other to demonstrate touch<sup>ex</sup>. Our first example, which we will present after the next section, is a case in point for both instances.

**Touch as resource for 'outward' meaning making: touch-as-mode (of representation and communication)** [notation: *touch*]

### *Metafunctions*

Following prior theorization of 'mode' (Kress & van Leeuwen, 2001; Kress 2010; 2014) we suggest that touch becomes a 'mode of communication' when the following conditions are met:

a) Touch is designed *for* one or more specific others, and *someone is addressed*. This is Halliday's interpersonal metafunction. A handshake is an instance; so is a light touch on the shoulder. Intensity can be a meaningful feature in *touch*: a firm handshake among close friends, a gentle handshake between adult and young child, or with a frail person; 'high fives'.

b) *Touch communicates something*. This is the ideational metafunction. For instance, tapping on someone's shoulder might mean something like 'well done', 'can I have your attention



please'. Again intensity can be meaningful here: it can signify a sense of urgency (firm contact – "EXCUSE ME!" –you're standing on my toes...).

c) *Touch is coherent with signs made in the same and other modes in forming a complete semiotic entity, a 'text'*. This is the (inter)textual function. Coherence can be with signs in the same mode: a handshake with one hand and a tap on the shoulder with the other hand at same time; and it can be with another mode, such as *gesture* (the friendly smile) or *speech* ('well done', 'nice to see you again').

To restate: touch becomes effective as 'mode' when *touch* is regarded as having been designed as a message, as 'addressed', in a community which understands the entities which make up that mode in the regularity of their use in that community. As message it will be interpreted; that is, treated as having (a) meaning, of whatever kind. That is, it is ideational. If the *touch* fits into the immediate environment of action and interaction, we can regard it as being coherent with that environment, and coherent within the on-going action. *Touch* then satisfies the criteria of meeting the demands of the metafunctions. It is a fully semiotic, communicational / *representational* resource. Like all modes, it has the capacity of producing coherent semiotic entities, 'texts-as-messages', produced to address a specific other, a participant in communication.

We can say that neither touch<sup>im</sup> nor touch<sup>ex</sup> meet these criteria, they are not capable of address in this way. "Address" might be a particularly useful criterial feature for mode-status in the difficult case of touch, and *touch*.

While the ‘everyday’ examples we have used here suggest a fairly limited potential, *touch* can produce more ‘complex’ signs. We distinguish between communities in which *touch* is weakly developed, has *limited semiotic reach* or ‘*communication radius*’ and communities in which touch has been developed into a mode which is highly articulated, with *extensive reach*. Tactile signing in deaf/blind communities is an instance of the latter.

And ‘a word of warning’: in general we do not assume that everything that can find expression in one mode can find expression in all other modes or even in just one other mode. Clearly, we do not expect *touch* to have the same realizational features as other modes – nor indeed vice-versa; though we do expect that as mode, *touch* realizes meanings in the three meta-functions.

### ***Interlude: touch technologies***

At this juncture we might turn to the touching<sup>im/ex</sup> of ‘touch-screens’ for a moment. We might imagine a young person who is by herself, navigating Facebook on an iPad. For her, touch<sup>im/ex</sup> serves as a resource for ‘inward’ meaning making, as a means of acting and being in this world. It is likely to be touch<sup>im</sup>: unless the screen starts ‘playing up’, she will not orient to the way in which she touches the screen – what she feels is entirely familiar and taken for granted, whether she taps on links, or types on the iPad’s ‘virtual’ keyboard. By tapping and typing she ‘activates’ representational resources that have been pre-designed, pre-arranged (to varying degrees) by designers in / into the surface she touches: she can change the colour scheme of her profile page, she can write on somebody’s ‘wall’, et cetera. It is ‘activating’ a pre-designed facility, much as she will know how to hold a knife, a hammer, depress a key on the keyboard. In doing some of this, she is acting in order to address others, but not

'through' *touch*: her addressees neither feel nor even see what she touched<sup>m</sup>. Her touching is part of 'production' (as in writing with pen and paper or on a typewriter), but it is not a mode in which she makes the signs that are audible, visible, palpable etc and therefore interpretable to others.

There are, of course, now technologies available that aim to digitally mediate touch across space. For instance, a haptic technology called PHANToM has been used to enable 'tele-handshaking' (Alhalabi & Horiguchi, 2001), while Durex has recently introduced 'Fundawear', a technology that allows people to remotely activate - on a touch-screen - sensors attached to someone's body. With these technologies, touch can become part of an ensemble of digitally mediated modes of communication. A tele-hand-shake or a tele-stroke addresses a specific other; something is communicated through touch; and together with the speech or writing used at the same time it is likely to form a coherent text.

These examples suggest that touch technologies simulate how touch is already used, enabling people who are not physically co-present to touch one another in ways they might have done had they been within touch distance. Yet touch technologies also have the potential to prompt new ways of using touch. In one recent experiment (Wang & Queck, 2010) people from an audience listening to a story wore an armband that was activated remotely to produce different forms of touch (eg a squeeze). The audience was touched in that way at carefully selected moments in the story-telling, effectively adding a mode to the multimodal text produced by the performers. Smartphones already have the capacity to vibrate, which can be felt by their users. Apps may be developed enabling users to design vibrational patterns and use these alongside or instead of speech or writing. Such apps might

find their way in to schools, enabling students to explore the meaning potential of touch in the context of text making and performance.

### **Communicating touch<sup>ex</sup> and touch**

So far we have discussed examples of *touching to communicate*. In the remainder of this paper we explore touch further by looking at instances where people *communicate touch<sup>ex</sup>*; that is, when touch is the phenomenon that is the subject (the ideational, the “lexical element”) of communication – “should I touch the injured person” (and not unlike ‘communicating my feelings’). Such instances enable us to explore the role and placement of touch in relation to *touch* in an ‘ensemble’ of modes used at the same time (the high fives (*touch*) with the smiling face (*gesture*) and the exuberant ‘wow’ (*speech*) with the distinct affordances of each, the potentialities and limitations of touch<sup>im/ex</sup> as a resource for meaning making.

One feature of touch that our examples will draw attention to is its dual materiality: touch, touch<sup>im/ex</sup>, and *touch* are all tactile, always, to the person touching at least, and, in cases where the addressee is touched, to both; and touch is also, often though not always, visible to the person touching and/or the addressee. We will be exploring how people deal with this dual materiality; for instance, how someone describes touch<sup>ex</sup> or *touch* in speech while they are touching.

Our examples come from a specific community: surgeons. To surgeons, touch<sup>im/ex</sup> is a central resource for ‘inward’ meaning making: they need to identify abstract entities (‘liver’, ‘cystic duct’ etc.) in a concrete body, and manipulate structures, and they do so in part through touch<sup>im/ex</sup>. Both implicit and explicit touching are visible all the time: both are always ‘going

on', yet the degree to which structures which are operated on are deliberately touched in order to examine varies. In some instances a 'touching' surgeon also addresses others around him or her, such as trainees and other surgeons – not by *touching* these others directly, as in the shoulder tap, but by drawing their attention to how and what they touch<sup>ex</sup>. Thus these others can only see someone touching, they are not being touched themselves.

We look at two examples. In the first example a surgeon 'communicates touch<sup>ex</sup>' to a medical student, by *exhibiting* touch<sup>ex</sup>, i.e. by showing touch<sup>ex</sup>. In the second example a surgeon 'communicates touch<sup>ex</sup>' to another surgeon, by *describing* (and exhibiting) touch.

### **Exhibiting touch<sup>ex</sup>**

Imagine a surgeon with a medical student at an operating table. The surgeon stands on the right side of the table, the medical student on the left side, and closer to the leg end of the patient; and in front of the instrument trolley stands the scrub nurse. The anaesthetist is seated behind the drape, near the patient's head. They operate on a small lump on the patient's belly. As the patient lies flat on his back, the lump is not visible. The operating light is focused on the patient's navel.

Before the surgeon makes the first incision she points with her left hand to where the (invisible) lump that they will operate on is located and asks the medical student if he wants to have 'a feel of that'. The medical student replies 'yeah', dipping at three different points around the focal area with the swab in his left hand. He then 'feels' superficially with his right hand. He holds his hand flat, putting gentle pressure on various points with the tip of his fingers, covering an area of about 3 inches below the navel. He also makes a sweeping movement in between two pressure points as shown in Figure 1.

<      **Insert Figure 1**      >

The surgeon then joins him in 'feeling', using her left hand. Her hand is slightly tilted, she creates more pressure with the tip of her fingers, reaching deeper into the belly below the navel, shown in Figure 2.

<      **Insert Figure 2**      >

The pressure points mark out and make visible the circumference of the lump. This is then followed by a grasping action involving her middle finger and her thumb, which lasts for a couple of seconds.

While the surgeon is performing the grasping action, she tells the medical student more about the patient: 'When he's awake he has got a small cough impulse and he's a bit tender. But he's had an ultrasound scan which suggests that it's a lipoma. Clinically I think you'd have to say that it's more likely that it's a hernia.' So while the surgeon is touching<sup>ex</sup> the lump, she describes other, previously accessed resources for making meaning, such as scans, which give meaning to what she is touching. The medical student has not had access to these resources before.

Both surgeon and student orient to touch in this example. They engage in instances of 'explicit' touching<sup>ex</sup>: they explore, examine the lump. But the question is: is touch here also

used as a 'mode of communication'? If we applied the 'metafunctions' test we might ask the following:

*What* does their touching communicate? (the ideational function) The surgeon's touching is rather different from the student's. The surgeon's touch is more specific and deeper/firmer, involving (the tip of) a flat though angled hand as well as a grasping action; the student's touch is broader, more superficial, and involves (the tip of) a flat hand only. To surgeons, the former signifies 'experience', 'knowledge', 'skill', 'decisiveness'; the latter signifies 'inexperience', 'uncertainty', 'searching', 'hesitation'.

How are these meanings connected to meanings made in the same and in other modes (the textual function)? If we take the surgeon's touching<sup>ex</sup> as an example, we find that it is coherent with a spoken account about this patient. Indeed what she says is likely to inform her touching<sup>ex</sup>. The question of what the lump is may be settled by touching<sup>ex</sup> for specific features: does it feel like a fatty lump directly under the skin, or does it feel like something that has popped out from underneath the abdominal wall?

Do surgeon and student 'address' each other? Well, we could say that the student's touching is meant to display competence *for* the surgeon, knowing that she will attach meaning to his touching. After all, she actually invited him to 'have a feel'. Is it the case that the surgeon 'addresses' the student via touch<sup>ex</sup> or *touch*? Does she 'demonstrate' how to touch? She could have said, 'Look, you can feel that it's rather firm', while repeating the same touch<sup>ex</sup> several times. That would have framed the touching pedagogically, as an act for the student. She didn't do that; in this instance touch fails the 'address' criterion. Though even had she done

so, she would have performed touching<sup>ex</sup> for the student; she would not have addressed him by means of *touch*.

This points to another, a fourth 'mode criterion', that is not met in any of the touching in our example. The surgeon and student do not touch each other, it is not 'interpersonal' touch. Touch is not their means of communication of one to the other; they touch<sup>ex</sup> a patient who's been put asleep, one after another (when touching a patient body at the same time that body does occasionally mediate interpersonal *touch*). When two people shake hands, they produce a *tactile signifier* that 'means' something beyond the *visible signifier* (or in the case of tactile signing, in the absence of a signifier that is visible to the addressee). In our example, the surgeon and student can only interpret each other's *visible signifiers*, that is, body movements of the person touching<sup>ex</sup>. As addressees they interpret visible, not tactile signifiers.

So one (theoretical) issue is, does *touch* as mode always involve tactile means of addressing? We suggest that the visible and tactile signifiers in our example are two parts of the one coin: where the coin is a modal ensemble, a semiotic entity which consists of two modes. Another way of putting this is to say that where two or more participants are involved, *touch* often relies on a *dual materiality*: visible and tactile. Each of these materialities has distinctly different potential. When both materialities are 'exploited' to communicate, as in *shaking hands*, or when only the tactile materiality is 'exploited', as in tactile signing, touch can develop into mode, *touch*. When only the visible materiality is used to communicate, as in the case of a surgeon demonstrating to a student how to touch<sup>ex</sup>, then the actions performed to address a specific other are perhaps better described as 'gesture' – more specifically, gesture used to communicate about touch<sup>ex</sup> or *touch*.



## Describing touch<sup>ex</sup>

Our next example illustrates how touch is communicated not only by exhibiting, but also by describing touch<sup>ex</sup>. Whereas exhibiting touch<sup>ex</sup> is inevitable - it is one side of touch - describing touch<sup>ex</sup> brings in a different mode, such as speech. Using speech to describe touch<sup>ex</sup> is an example of *transduction* – if the attempt is to provide a *parallel* account, rather than a *complimentary* account as in the surgeons recounting of what is known about the patient, while she is touching<sup>ex</sup> his abdomen.

In *transduction*, semiotic material is moved across modes, from one mode (or set of modes) to another mode (or set of modes). Modes have different materiality and that materiality, shaped by the histories of work in social settings, has produced the specific affordances of a mode. Given that difference in material and the social work done with that material, there can never be a ‘perfect’ translation from one mode to another: touch-as-mode does not have ‘word’, just as writing does not have ‘depiction’; forms of arrangement (‘syntax’) differ in modes which are temporally instantiated from those which are spatial. Transduction inevitably brings profound changes in meaning, in the move from one mode to the other. In such contexts we can ask about ‘gains’ and ‘losses’ in the process of modal change (Bezemer & Kress, 2008). ‘Transduction’ might be contrasted with ‘transformation’, or remaking meaning in the same mode, such as when we rephrase a sentence, or replace one form of touch into another, as with the ‘Fundawear’ referred to above. Transduction also happens in ‘tactile signing’ we mentioned earlier, when the mode of *gesture* with all its potentials for meaning, is ‘translated’, ‘drawn across’ into another mode, that of *touch*, with its different potentials. So just as an example, it is likely that in that move important aspects of *gesture* –

such as the pace of a sign, or the extent of the size of a sign – can not readily or fully be reproduced in the new mode. Of course, if as we assume communication is always multimodal – many modes always making up any message, then the blind person touching<sup>ex</sup> or being *touched* may well be able to rely on the resource beyond touch alone, the message being supplemented by speech, for instance.

Our example here illustrates the challenge that transduction can pose, in a context where transduction is the only way in which others can get involved in making important decisions. Operations always involve more than one person, yet usually only one person at a time can explore the parts operated on, by hands or indirectly through instruments.

Swapping positions at the operating table to allow others to touch<sup>ex</sup> the focal part is not always an option – the ‘other’ may not be ‘scrubbed in’; and this practice is not always encouraged, as it disrupts the flow of the operation. In order for the other surgeons present to be able to advise or instruct the operating surgeon, the latter needs to communicate *what* she or he *feels* (so here ‘how to touch<sup>ex</sup>’ – a prerequisite for communicating what is felt and has come to be known - is taken for granted).

Speech is one means of communicating what one feels. To explore how that is done in operating theatres we reviewed a subsample of 12 operations, totalling just under 10 hours of operating time. Having transcribed what is said during these operations we searched for the token ‘feel’ in all transcripts. We found that it appeared 17 times across all 12 cases. In 8 instances it is used in the sense of an overall judgement, e.g. ‘I get the feeling that if I move this aside...’. In 9 instances it is used to introduce a description of what body parts ‘feel like’. In 8 of those 9 times it was the same surgeon in 3 different operations. In 1 instance it was a

surgeon promising to medical students that they can ‘have a feel’ of the gall stones once he has taken the gall bladder out and opened it up.

Here is an example illustrating how a surgeon communicates what he feels. The example is taken from a laparoscopic operation. Surgeon1 is operating while supervised by Surgeon2.

Surgeon1: I think we must have leaked something

Surgeon2: Sorry what?

Surgeon1: I think I've perf'd the gallbladder cos its...

Surgeon2: Why?

Surgeon1: Cos I can see a bit of bile, and it just feels deflated.

As Surgeon1 is suggesting that ‘we’ have leaked something the screen projecting the inside of the patient’s abdomen shows some bile spillage. This, by the way, is not a clinical complication; as surgeons dissect the gall bladder out, they sometimes accidentally damage the gall bladder, causing its contents – bile and sometimes gall stones - to leak out. Yet on a formal assessment Surgeon1 would get penalty points for this, and surgeons are generally unhappy about being seen perforating a gall bladder that is being removed.

Only Surgeon1 can ‘feel’ the gall bladder, which is an additional source of evidence for his observation that there is a leak in the gall bladder. So he describes what he feels as ‘it feels deflated’; i.e. he ‘transducts’ touch<sub>exp</sub> into speech, addressing his supervisor. He also describes what he sees on the screen (‘I can see a bit of bile’), i.e. he ‘transducts’ image into speech. Unlike touch<sub>exp</sub>, that image is also available to the supervising surgeon.

This is the only example – of all 8 instances of this surgeon saying ‘feel\*’ - where he has the lexical resources to describe what he feels. In all other cases he is ‘lost for words’, as in “I don't know. It just feels a bit -” None of the other 11 surgeons on record used speech to communicate what they feel, or to ask the operating surgeon what they feel. That suggests that in this set of operations touch<sup>ex</sup> is only occasionally given a gloss, or maybe made explicit through speech. A number of factors may account for this finding.

First, there often is a lack of lexical resources for giving apt descriptions of what is felt. Second, the set of operations we looked at in this section were laparoscopic procedures. In laparoscopic operations touching the patient’s body is always mediated by instruments; surgeons can’t touch the body directly, as in the examples discussed in the previous section. Perhaps in this context touch<sup>ex</sup> as a resource for making meaning of the ‘object’ operated on is pushed to the background, while ‘image’ (produced by the laparoscope), which is visible to all, is brought into the foreground. Whatever the explanation may be, it seems that while touch<sup>ex</sup> is a central resource for surgeons for making meaning – and perhaps other ‘craft’-like professions as well - it only occasionally becomes the subject of communication, leaving its meaning potential largely ‘tacit’.

**In conclusion: no (real) answers, more questions, some suggestions**

In what we have discussed we have provided some discussion hovering around the question of touch as mode, *touch*. We have shown that touch in various forms is a means of making meaning. Its semiotic significance is not at issue: the question of its modal status is, to some extent. We wish to show that this discussion needs to happen, and it needs to become more

precise before we can attempt to settle the various issues; and above all before we proceed to announce the discovery of a new member of the 'literacy family': *touch literacy*. In the case of the medical student in our example, our discussion can begin to go some way toward shaping means of learning how to teach touch<sup>ex</sup>.

We might, from the point we have reached, explore a number of stages or phases and environments involving touch:

### 1) **How is *material* drawn into semiosis**

There may be a kind of recoverable sequence, from material drawn into semiosis on occasions, to material drawn in more and more frequently, to, maybe, the development of a mode shared by a community. More immediately and modestly we might say, for instance, that '*learning how to touch<sup>ex</sup>*' is a prerequisite for '*communicating what is felt*'. From touch<sup>im</sup>, to touch<sup>ex</sup>, to communicating (about) and demonstrating touch<sup>ex</sup>; from *feeling* to communicating feeling, to forms, maybe, via *tactile signing*, to the development of *touch*. In part this may be prompted / incited because there are now many common and essential forms of practice where no lexis spoken or written is available, nor visual means for transduction.

### 2) **Framing**

The meaning potential of touch is shaped by the cultural and social environment in which it is located. A handshake by two rugby players following a successful match is differently framed than a handshake between a doctor and a patient. Doctors need to sustain a 'professional' frame (Frankel, 1983; Heath, 1986) while touching<sup>im</sup>, and our examples must be seen in that light. (One recent instructional text for doctors describes touch as an

‘unfavourable communication behaviour’; according to the authors less touch ‘has been associated with greater patient satisfaction’ (Golin, Thorpe & DiMatteo, 2008)).

### **3) The reconfiguring (distancing) effects of technology**

In the laparoscopic cases, *feel* appears more than touch, that is, the optical technology of the *camera* and screen move the visible aspects of the domain of practice from the physical body to image. In this distancing, the word (and experience of) *feel* replaces / displaces the word and the experience of direct touch. This move may bring with it a change in terms of accounting for “the world and the effects of my actions and their effects in and on the world” (from all the forms of touch), to the effect for me / on me from the world.

It may be that ‘*effect*’ in *the world* moves into focus in laparoscopic operations rather than *my action in / on the world*. From *means of getting information* from the world, focus shifts to *result/effect on me*.

### **4) “activating”**

In touch<sup>im</sup>, touch<sup>ex</sup> and *touch*, there is direct contact with ‘the world’. In laparoscopic operations (treated for the moment as an instance of other technologies with a similar mediating function) there is a more mediated, perhaps indirect, contact with the ‘focal’ object (and direct contact with the instrument held of course). It is another case of *gains and losses*.

The main point in touch-screens is not that touch is ‘a new literacy’; rather that touch in these instances is a means of *activating* a predesigned resource for representing. ‘Activating’ is of course also meaningful, by contrast with ‘not activating’. We suggest that touching screens to explore, e.g. Facebook, is not mode, just as typing was/is not “mode”. In these instances,

touch<sup>ex</sup> is a means of *activating* an existing resource which has been designed 'into' a surface – much as the keys of the old typewriter were, giving access to a designed resource. Or going a step further, just as socially made objects are designed to be activated. Members of social groups know not to hold a knife by the blade but by the handle. It is a form of activating a semiotic/cultural potential and resource. Touching the keys of the typewriter did not transform the resource of production, nor the design of the resource. Touch, in these instances is part of resources for production; the potentials of touch screen appliances are not transformed – redesigned – by touching.

The idea of 'activating' a resource in processes of production might allow us to escape many of the facile namings, such as computer literacy, etc.

##### **5) Boundaries – strict or blurry - in the border lands between modes**

Modes are the product of the work of individuals with social histories and interests on and with materials drawn into semiosis. The one material, let us say 'sound', can be worked with and on in quite different ways: shaped into the mode of *music*, of *speech*, of *soundtrack*, of *whistle-languages* so-called. The fact that it is one kind of material, worked on for the different purposes of members of one community, leads to the fact that meanings and values which are shared by a community at one level, appear as different modes with different affordances. The modes of *music* and *speech*, and particularly of *singing* and *speech* share – at some level – many features: tonal variation for instance is a feature – as intonation – in speech and - as melody – in singing. It can lead under certain circumstances, from *speaking* to *music* via *humming*.

That vagueness is clearly evident in relation to many modes; not least in relation to actions of parts of the human body which leads to the modes of *signing*, of *gesture* and of *touching*. Nor are all modes equally finely articulated, whether in one society, or across societies. We might ask what needs, what occasions, in what ways, under what conditions, in what communities, will lead to the use of the materiality of touch, as an 'available' resource to be drawn into semiosis, and lead to the development of the mode of *touch*. The decision whether to allocate an instance to one of our three categories is one that will need to be made in specific circumstances by those who are engaged in communication.

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**Figure captions:**

**Figure 1. The touch of the student**

**Figure 2. The touch of the surgeon**