

Text of the original article (in German) can be found here:  
<http://www.zeit.de/2009/53/B-Singen?page=all>

## Happy Sound

Caption: Singing in a group generates a feeling of happiness and releases anti-stress hormones.

There is less and less singing done in German homes, even at Christmas time. Singing together, on the other hand, is a healthy experience for body and mind.

By Christoph Drösser

The German Christmas carol “Durch der Engel Halleluja tönt es laut von fern und nah...” claims that the angels’ singing hallelujah sounded the message loud and clear, far and near. But who is sounding it nowadays? Under German Christmas trees, most of the singing comes from a recording. Three out of five German citizens listen to CDs at Christmas time. Only one fifth still does the singing on their own, this is the result of a representative survey taken by the market research institute Ears and Eyes.

Cross your heart: who still knows the lyrics to the third verse of “Silent Night” or “The bells never rung more sweetly”? Even less of those not so popular, but beautiful old songs like “Mary crosseth a thorny wood” or “Daughter of Zion”. The families where gifts were only passed out after singing together are now few and far between at Christmas (see interview on page 36). Even with the best of intentions, it is hardly possible for the generations to find a common ground, because young and old no longer have a common play bill. And even though in the weeks before Christmas seasonal music is omnipresent and swamps us from the radio and in every shop and mall – singing under the Christmas tree is a bit too outdated and corny for most people’s taste.

But all the non-singers don’t know what they are missing. Everyone knows the power of music by merely passively listening to it, the rapt, euphoric or melancholic mood it may trigger. But music is even more powerful if we produce it ourselves, especially in its original form, pure singing. Lay singers are always in raptures about the strong emotions, the sense of community, the physical kick they get out of weekly choir practice. Latest results gathered by scientists who investigated the issue why people so much enjoy joint singing reveal that there is more to it than the subjective enthusiasm for the personal hobbyhorse.

Rhythm synchronizes groups and is euphorigenic in individuals

Different theories are tossed around as to why music has been generated in the course of the human evolution. As the most reasonable explanation we presently consider the one claiming that the main purpose is a “social glue” (ZEIT No. 27/09): if I make music with someone, I don’t go for his throat – which is still as valid under today’s Christmas tree as it used to be at the hearth fires of our forebears. It is true, however, that the community-spirit generating function of music may be employed for aggressive purposes, quite contrary to the popular German saying that mean-spirited

people don't have songs. They do, in fact. Until this very day, the military all over the world is making use of music in this sense, and the Nazis as well as the Communists mobilized the masses with music – thus discrediting joint singing at least in Germany and leaving it with a long-lasting legacy of abuse.

How actually does music unfold such a group-dynamic effect? Scientists believe that is basically due to the rhythm, the beat. The American Historian William H. McNeill wrote a book with the title “Keeping Together in Time” in which he describes the function of “Dance and Drill in Human History” (subtitle). He draws on his experience in boot camp. The rhythmic drill to which they were exposed by a brutal drill sergeant played a major role: even the most mindless collective exercise put them in a state of euphoria, generated a feeling of general heat. McNeill calls this collective experience *muscular bonding*. For the same reason, they are still marching in step, even though this has no function at all any more when going into action.

Just like the participants of the Love Parade, the revelers in the Rhinish Carnival or the supporters on the grand stand watching their club, they all have the immediate experience of what rhythmic synchronization does for a greater group feeling. This has also been recently measured objectively. In the spring of 2009, Scott Wiltermuth and Chip Heath of Stanford University reported of experiments they had conducted to reduce this phenomenon to its bare bones, so to speak, in *Psychological Science*: in a first test, they made students march over the campus in groups of three, sometimes in step and sometimes un-coordinated. Afterwards, the test persons had to complete tasks which required cooperation for optimal results. The best results were consistently achieved by those who had been rhythmically marching before. And these also stated that they felt a stronger bond to the other participants.

In a second round, the psychologists did away with motion and merely let their test persons sing together – choosing the Canadian national anthem *O Canada* (all students were US citizens, so they selected a foreign anthem on purpose). In one group, every one sang separately, in the other they sang together. And again this showed that collective singing generates cooperation and unselfishness.

However, the positive effects can also be measured in the individual singer. The British psychologist Robin Dunbar of the University of Liverpool studied whether singing causes a raise in the level of endorphins produced – the opiates produced by the body to increase human tolerance to pain and stress. His team could not take any direct readings (they would have to puncture the bone marrow in the spine of churchgoers for this purpose). Instead, they put a blood pressure cuff on people's arms right after they came out of church and pumped it up until it hurt. The surprising finding: parishioners who had sung along resisted the pain clearly longer than those who had stayed silent. Apparently, the body releases the natural stress protection at every joint sing-along.

Such findings render those some six percent of the population who regularly sing in a choir or a club with others an interesting research object. When choir singers talk about their hobby, they quickly start to rave about it. But are they really and truly, objectively speaking, more social, happier, and healthier than their contemporaries?

Gunter Kreutz, musicologist at the University of Oldenburg, has been investigating the psyche of choir members for several years as well as the physical effect of their

singing lessons. The protein Immunoglobulin A (IgA) is a good indicator for a sound physical overall condition. Its concentration reveals the fitness of the immune system. In an experiment, Kreutz invited 31 singers of a lay choir to two practice sessions: during the first, it was normal practice for Mozart's *Requiem*, during the second; the singers were only listening to the same piece from a CD recording. Before and after practice, they each handed in saliva samples, so that the IgA values could be determined in the laboratory. The results: the increase was substantial after singing practice, mere listening, on the other hand, produced only a minor, statistically not significant increase.

Choirs have problems filling their ranks with newcomers, TV casting shows are stormed

These sober laboratory values correlate in fact with the subjective information provided by choir singers. In a major psychological study conducted amongst choir members from Germany, the United Kingdom and Australia, which was published last year by scientists from these three countries, singers expressed themselves convinced that choir singing contributed in several ways to their physical and mental well-being:

- Singing lifts the mood and chases worries away – even if the actual living conditions are contrary. This is confirmed by the experience with choirs made up of jobless, homeless or inmates.
- Singing supports a better respiration. This alone is helpful to reduce stress and fears.
- Add to that the advantages of every community in which one becomes involved at regular intervals: lifelong learning, stable social contacts, a solid structure in one's life.

If this is such a profoundly healthy hobby – why is it that not more people take it up? After all, *listening* to music is stated as one of the most popular recreational activities in all surveys. Choirs, meanwhile, are desperately looking for new members. They have to battle against any number of biases: 60 percent of the people asked in surveys said that they could not sing – which in most cases has been shown to be absolutely wrong. In a study in 2007, Peter Pfordresher of the University of Texas came to the result that most of them in fact hit the notes – only 15 percent were really singing off key. And even those must not necessarily be considered dead losses: Pfordresher arrived at the conclusion that the majority with a little practice were quite capable of learning the production of the notes they had in mind with their vocal organs.

If you have once been kicked out of the school choir for singing off key, you will have a hard time taking up choir singing at a later stage. Most choir members, as surveys indicate, have been actively making music since their youth. Meanwhile, choir directors are willing to make allowances, for example, being able to read a musical score is no longer a must in order to join a choir. Nowadays, there are choirs for all musical tastes, from classics to jazz, folk songs to top-40 hits. However, from the sociological perspective, choirs remain a hobby mostly of the middle classes.

Whilst choirs and singing clubs are hard put to find new members, joint singing enjoys a renaissance in those classes which have no idea of singing from a sheet –

as for example in karaoke video games like Singstar. Players sing to playback in front of the television and check in real time whether they have the right pitch or timing and how closely their singing resembles the original played on the radio.

These games are, of course, also popular due to the many casting shows on TV, such as the German equivalent of American Idol – Deutschland sucht den Superstar, which are practically overrun by contestants. This may raise mixed feelings in the breast of many a music instructor – Commercialization! Competition! Pressure! Shady role models! – but: it also shows an inherent need to sing. Music pedagogue Wolfgang Pfeiffer of the University of Erlangen-Nuremberg realized when watching his 14-year old daughter that karaoke games are greatly popular especially with young girls and tried to put this to good use in the classroom. Now during his lessons, the classroom becomes a casting stage. “After all”, muses Pfeiffer, “everything that gets children to sing is good!”

Translation: Johanna Roose-Stähle